JUNE 19, 1961

PAPER TRADE JOURNAL

How Real Are Today's Predictions? Comments Heard at the PIMA Conf.

Operation Flexibility—The Story Of Pulp Bale Handling at Scott

New Technique Tells What Kind Of Pulp is Plugging That Felt

What's Up—What's Ahead in 1961 Read BDSA Progress Report

Contents of the Week, pages 4-5

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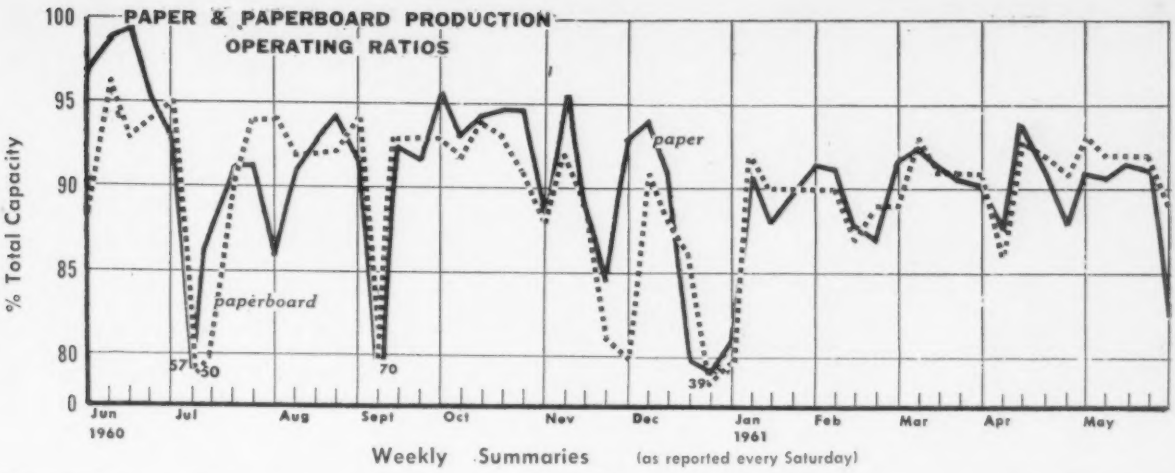

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TAPPI Lignin Symposium, Edgewater Beach Hotel, Chicago, Ill.	AUGUST 14-16
TAPPI Corrugated Containers Conference, St. Francis Hotel, San Francisco, Calif.	SEPTEMBER 6-8

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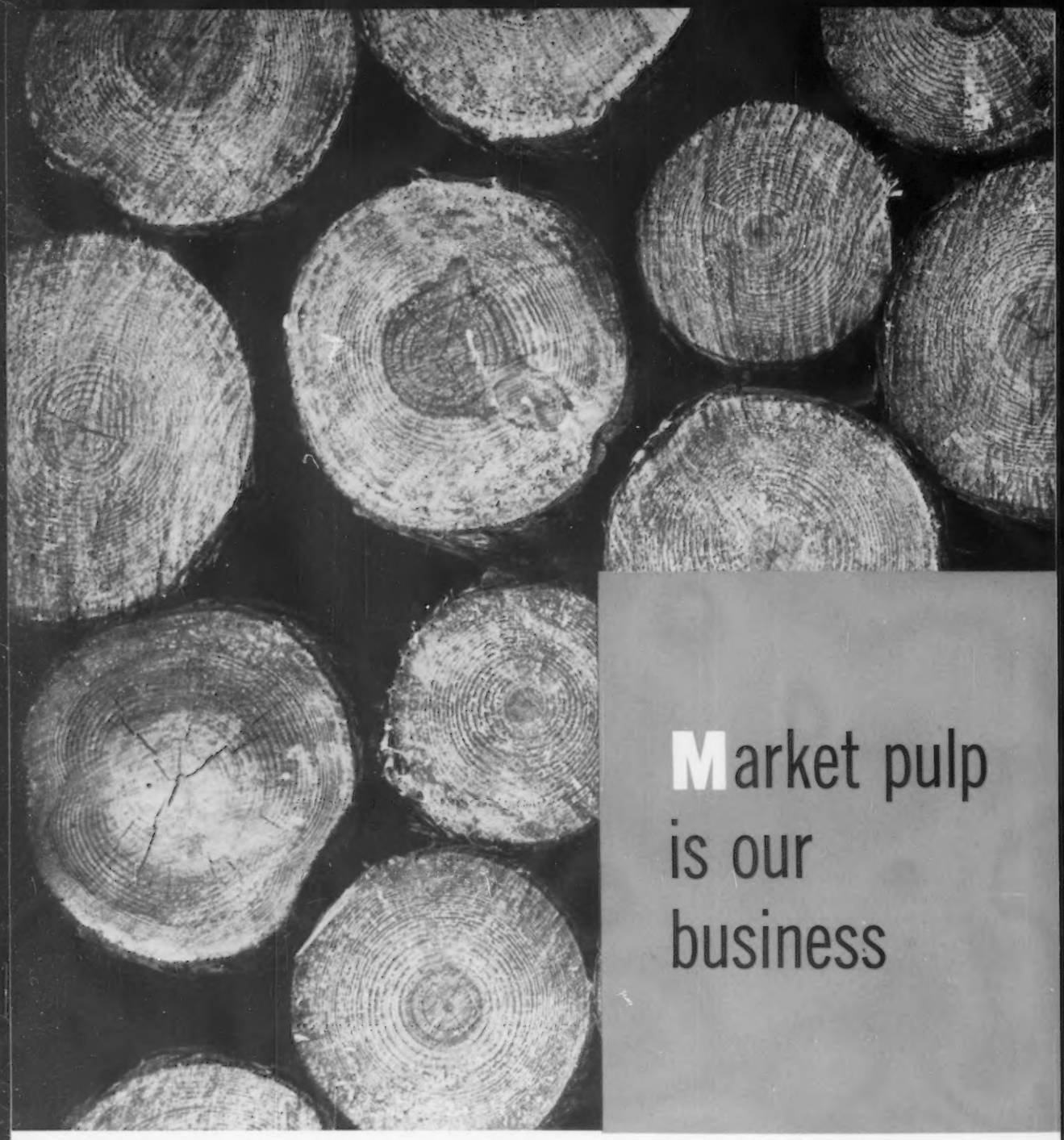

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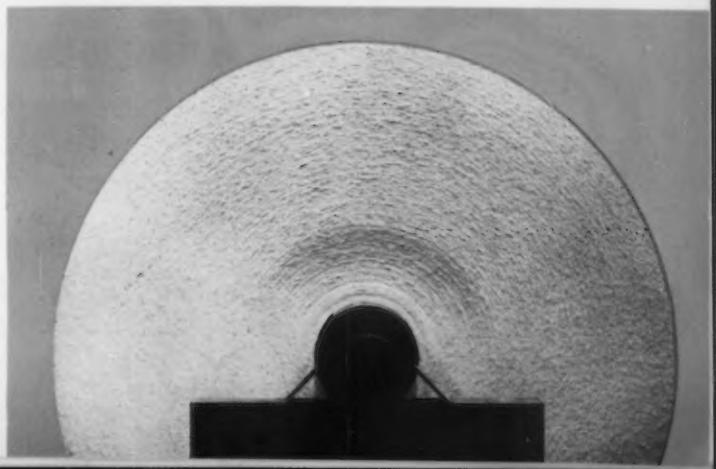

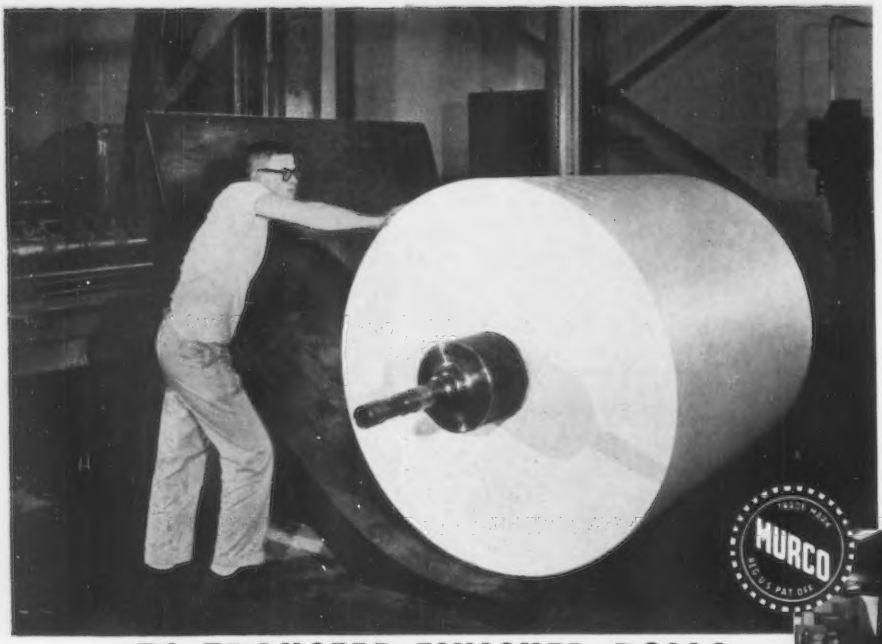

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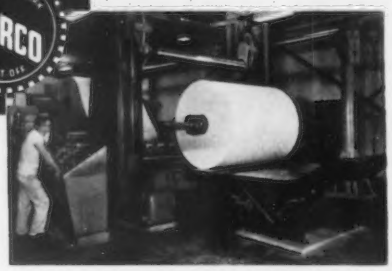

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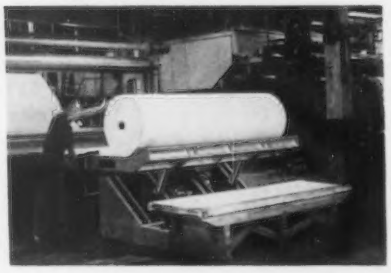

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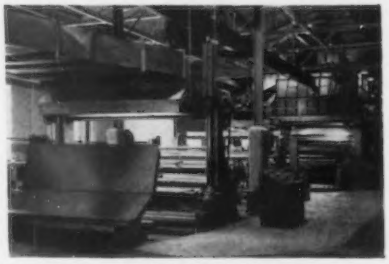

CHARMIN PAPER PRODUCTS CO., Cheboygan, Michigan Division on #9 paper machine

news from Du Pont

PROVIDENCE LAB ANALYZES SCORE OF PAPER SHADES IN TYPICAL "ECONOMY CHECK" FOR NEW ENGLAND MILL

Taking advantage of Du Pont's Economy Check program, a progressive New England mill recently submitted more than 20 of its colored papers for thorough analysis by our Providence laboratory. The Du Pont specialists are looking for ways to improve quality and/or reduce cost by reviewing completely the recommendations for each mill shade.

"It must be a thorough study," says Wes Killheffer, technical supervisor of the Providence District office, "so we can assure mills that they are using dyes most effectively, most economically."

Frank Desmond, Du Pont Dyes & Chemicals technical representative, is in charge of the Economy Check in New England. Along with lab technicians Albert Watson and Charles Lenderson, Desmond strives for these three objectives:

1. Upgrade quality (for example, fastness to water or light) by suggesting alternative dyes.

2. Improve mill efficiency by recommending dyes that are easier to control and thus insure more uniform results.

3. Save money by suggesting cheaper dye formulas that will do a satisfactory job.

The laboratory recommendations, of course, are only part of the Economy Check story. The revised formulas are then taken back to the mill by Desmond or another Du Pont representative for demonstration or trial. Additional work may be required to tailor the recommendations to mill requirements.

In addition to long-range Economy Checks, the Du Pont lab people function as "short-order cooks," matching color shades for mills swiftly and accurately. The shade matching requests come in by mail, phone, or via the Du Pont salesman. The lab makes an average of four matches before recommending a formula for mill trial.

Now serving 173 paper mills in the New England area, the Rhode Island installation is one of five Du Pont labs working for the paper industry. All of them stand ready to help you with your paper dyeing problems.

Frank Desmond (left) and Wes Killheffer outline scope of typical Economy Check in detailed Providence lab memo.

Albert Watson, lab technician, using same "furnish" that the mill uses, carefully adds dye to the pulp, then stirs.

After dye and pulp are thoroughly blended, the mixture is poured into a mold where sheet of paper is formed.

Desmond and Watson compare dry lab sample with mill sample to see that they have a satisfactory shade match.

SURVEY SUGGESTS DU PONT "DESIGN/COLORED PAPER" SERIES HAS SPURRED USE OF COLORED PAPER

Two years ago Du Pont launched a Colored Paper Marketing Program to help paper mills and paper merchants promote the use of colored stock by graphic designers and printers. In addition to a highly noted advertising campaign featuring nationally recognized designers in trade magazines, Du Pont started mailing a publication called "Design/Colored Paper" to a special list of artists and printers. It demonstrated new and effective applications for colored paper in the graphic arts.

To check the results of this effort, the Dyes and Chemicals Division recently mailed a questionnaire to the 2897 designers and printers on the list. A whopping 41 per cent returned the questionnaire, and subsequent compilation of answers revealed:

1. Exactly 75 per cent said that D/CP ideas influence them to specify more colored paper than formerly.

2. A huge majority want still more information and inspiration.

3. Most want more help on colored paper from paper marketers. Only one out of five had been visited by a paper salesman who mentioned "Design/Colored Paper." And more than one out of three never even see a paper salesman!

news from Du Pont

NEW PAPER WHITE SPS ADDED TO "BRIGHTENER" LINE

Du Pont Paper White SPS Solution is our newest white dye for paper. It is a clear solution and it exhibits excellent buildup properties when surface-applied over the pH range of 4.0 to 8.5. It also can be applied in the beater over a wide pH range and is non-graniting.

The same dye is available in a weaker concentration, designated Du Pont Paper White SPSW Solution.

See your Du Pont representative for more information and to arrange for a mill trial.

New Report: The Effects of Dyes on the Opacity of Paper

There is growing demand in the industry for lightweight papers with high opacity. The trend toward higher postage rates on publications is partly responsible for this, making it desirable to reduce the basis weight of printing papers without loss of opacity. Increased opacity for a given fiber furnish can be achieved by the use of additional pigment filler, or a filler of increased refractive index, or by use of dyes.

A paper on this subject, co-authored by Du Pont's Mason Hayek, Albert S. Deutsch and Joseph P. Neary, was delivered by Hayek at the TAPPI annual meeting in February. It describes the effects of dyes and colored pigments on opacity, discusses the relationships between hue, opacity and brightness for tinted, pastel and deep shades, and points to practical applications of the principles. This report, along with Du Pont Color Orientation and Opacity Charts, is available free by writing E. I. du Pont de Nemours and Co. (Inc.), Dyes and Chemicals Division, Nemours 8520, Wilmington 98, Del.

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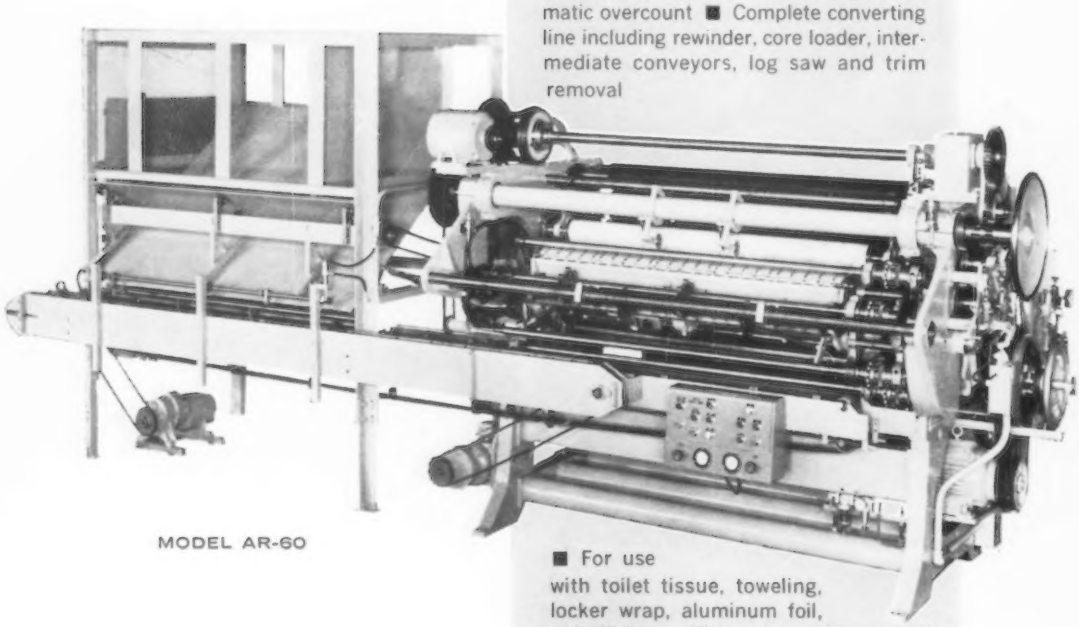

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Trends

Sees 1961 Will be Ahead by 2%

In the first quarter of this year output was off less than 3% against the first quarter of 1960, states W. LeRoy Neubrech of BDSA in an article beginning on page 32. Mr. Neubrech predicts that 1961 production will top that of last year (a record) by 2%.

Pulp Output Nearly Closes Gap in April

Total woodpulp production in April was only 1% behind the same month last year according to U. S. Pulp Producers Ass'n. For the first four months output was only 2% behind the same period in 1960. Domestic market pulp shipments to U. S. plants in April was off 8% from a year ago but exports for the month showed an increase of 19%. For the period domestic shipments to U. S. mills were off 6% while exports were up 17% as compared with 1960.

How Big by Year 2000?

Recent estimates of paper and board output in the year 2000 vary widely from an extreme of 250 million tons down to a more realistic 120. For details see the article in this issue by B. Slatin, APPA economist.

Paperboard Ahead of 1960 in March & April

Paperboard production in March and April ran ahead of the same months last year according to a report by Alvin A. Newberg, statistician, National Paperboard Ass'n., presented at the recent spring meeting of that association. In another vein Mr. Newberg emphasized that the biggest problem facing paperboard manufacturers is that their prices are too low.

Predicts Continued Rising Exports

Fred Bryer, export trade specialist, U. S. Dept. of Commerce, forecasts (on page 34) that "In view of increasing demand for pulp, paper and paperboard, chiefly reflected by the economic vitality in many areas of the world, the favorable trend for expanded exports is expected to continue not alone in 1961, but in the years ahead."

Wastepaper Demand Continues Stronger

Demand for most grades of wastepaper (excepting news) continues generally stronger throughout the country. However, prices have not as yet made significant advancement. The usual summer slack may postpone substantial increases until fall.

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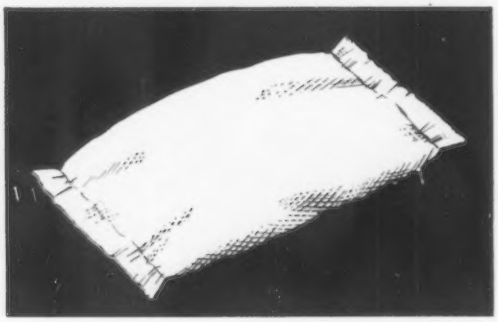

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PAPER TRADE JOURNAL
WEEK OF JUNE 19, 1961

ONE CRANE hoists another for a second story job.

One Crane Hoists Another to Solve Problem At Garden State Paper

Installation of a paper machine on the second floor of the mill of Garden State Paper Co., now under construction, called for an unusual tactic. To set the paper machine components in place, a truck crane was hoisted 18 feet to the second floor of the mill.

Rather than face a delay while waiting for delivery of the conventionally used bridge crane, Irving Pearl, head of Coyle & MacDonald, the rigging and millright contractor, employed an unusual as well as efficient technique. A 25-ton capacity truck crane was lifted to the second floor of the mill by a larger 35-ton capacity truck crane. This is believed to be the first time that a truck crane—usually used for outdoor work—has been employed to install paper machinery in this manner.

To facilitate this operation and to allow for efficient movement of machinery to the second floor, Mr. Pearl asked the general contractor on the project—Jos. L. Muscarelle, Inc.,—to leave an opening in the building wall. After installation of the paper machine is finished, the truck crane will be removed by the same method and the building wall completed.

The Garden State Paper Co. mill, located at Garfield, N. J., will be the first plant in the country to convert waste newspapers into usable newsprint.

Ground Broken for Keyes Fibre Plant in Sacramento

Ground has just been broken in Sacramento, Calif., for the pulp molding plant being erected by Keyes Fibre Co., Waterville, Me. Walter H. Randall, vice president and director of engineering and research for Keyes, announced at groundbreaking ceremonies that manufacturing operations are scheduled to begin in mid-1962.

Keyes Fibre Co. was founded in 1903 in Shawmut, Me., where the company still maintains its groundwood pulp mill. The principal manufacturing plant is situated near by in Waterville, Me. A third plant serving the Middle West, was established in 1948 at Hammond, Ind.

The Sacramento plant, to be located on a 40-acre site, will manufacture molded paper products for the food industry, including plates, prepackaging meat and produce trays, food service trays, cake circles, apple packs and egg trays. It will serve the 11 western states and Hawaii and Alaska. Mr. Randall estimated that about $5 million worth of products will be produced annually the first few years.

Paper and Paperboard Production

The American Paper and Pulp Association reported the ratio of the United States paper production to mill capacity for the week ending June 3, 1961, at 87.5 per cent, compared with 91.9 per cent, revised, for the preceding week. The ratio was 96.1 per cent for the corresponding week a year ago.

The National Paperboard Association reported the paperboard production ratio for the week ending June 3, 1961, at 84 per cent, compared with 93 per cent for the preceding week and 85 per cent for the corresponding week a year ago.

(Detailed Statistics on page 56)

Great Northern Begins Work On $1,500,000 Center At Millinocket

Great Northern Paper Co. broke ground for the start of its new $1,500,000 Engineering and Research Center, being constructed on ground adjacent to the administration building at its plant in Millinocket.

The new center is expected to be ready for occupancy by April 1962.

The Engineering and Research Center symbolizes Great Northern's growing interest in the application of modern technology to papermaking and the development of new products, M. C. McDonald, president of the company explained. The new facilities will enable the company's research and engineering staff to make increasing contributions toward the company's programs of growth and diversification.

The building will provide an area of 40,000 square feet for laboratories, engineering drafting, offices, and a library; plus a 13,000 square foot area for pilot plant, other experimental facilities, and storage space. In form it will consist of a central building for engineering and research, with an administrative wing and a pilot plant wing.

The administrative wing will contain offices for David F. Pollard, manager of manufacturing; Warren F. Daniell, manager of engineering and research; and offices for the engineering purchasing staff.

Diamond National Subsidiary Will Build Plant in West Germany

Diamond National Corp. announces that it will build a molded-pulp plant in West Germany. The plant, to be operated by Diamond's West German subsidiary, Omni-Pac G.m.b.H., will be located at Elsfleth, 18 miles north of Bremen in Lower Saxony.

The plant will be the first of its kind in Germany and will produce a diversified line of molded-pulp products to meet the growing demand on the Continent for prepackaged foods.

E. T. Gardner, Jr., vice president in charge of Diamond's foreign department, will direct the West German program, along with the company's other foreign operations. Construction and equipping of the new German plant will be done in two phases, the first of which will represent an investment of more than $6,000,000. Major production equipment for the project has been designed by the Diamond National engineering department and will be built in the United States.

Dr. H. G. Brandes has been appointed general manager of Omni-Pac and will assume responsibility for the operation of the new plant. German personnel will be recruited and will be trained in the United States to handle technical and manufacturing supervisory responsibilities.

Diamond National also operates a molded-pulp plant in Norway and has recently expanded the operations of The Hartmann Fibre Co., its English subsidiary.

Wood Conversion Co. Acquires Sonic Engineering

D. M. Pattie, president, announced that Wood Conversion Co., Saint Paul, Minn., has acquired the stock of Sonic Engineering Corp., Stamford, Conn., in a corporate reorganization of that company. Sonic Engineering will be operated as a wholly owned subsidiary of Wood Conversion.

Sonic Engineering Corp. manufactures and holds patents on ultra sonic devices which produce sound waves that vibrate 20,000 or more times per second and are used to super-mix and disperse chemicals, etc. This acquisition follows almost two years of cooperative research by the two companies into the application of ultrasonic processes in the pulp and paper industry. This research resulted in further patentable equipment offering solution to a myriad of process problems where the most intimate mixing, and difficult mass and heat transfer phenomena are to be accomplished.

New officers of Sonic Engineering Corp. are D. M. Pattie, president; B. J. Gaffney, Wood Conversion Co.'s director of engineering, executive vice president; D. E. Hinton, secretary-treasurer. The directors are Mr. Pattie, Dr. Gaffney, and E. C. Cottell, formerly president of Sonic Engineering, who will continue with the company as managing director along with other management personnel of Sonic Engineering. Manufacturing facilities will remain in Stamford, and sales of Sonic's equipment will be made through Wood Conversion's sales organization.

Wood Conversion Co. was organized 40 years ago by Weyerhaeuser interests to convert pulp woods into useful products and was a subsidiary of Weyerhaeuser Co. until 1953 when it was spun off from the parent company. Wood Conversion is an important producer of building insulation, sheathing, wallboards and mineral and wood fiber acoustical products. Following World War II, dependency on the cyclical construction market was lessened with the introduction of a new product line of industrial cellulose cushion padding, called Tuftflex. Wood Conversion's industrial product applications include the sound deadening of automobiles; the comfort cushioning of furniture, bedding and juvenile equipment, and the protective packaging of a host of industrial products.

Sonic Engineering Corp. was founded in April 1957 by E. C. Cottell who came to this country from England where he was associated with Ultrasonics, Ltd., the English company which was founded in 1952.

Lockwood Trade Journal Co., Inc.
New York 36, N. Y.

Dear Sirs:

We wish to advise that the Polish Foreign Trade company—Metalexport—49 Mokotowska Street in Warsaw, Poland, is interested in establishing a business contact with a manufacturer of equipment known as:

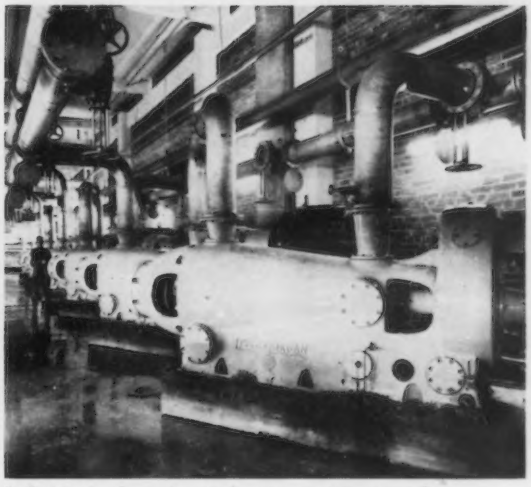
BEECH DISSOLVING PULP EQUIPMENT PRODUCING VISCOSE CELLULOSE FOR YARN RAYON BY SULPHATE PROCESS WITH PREHYDROLYSIS

We should be very obliged for your kind assistance in securing this information or referring us to the proper source.

We await with interest the pleasure of your news and remain, Dear Sirs,

Very truly yours,
Stanislaw Brozoska
Commercial Attache

Wifstavarf's plant outside of Sundsvall in the northern part of Sweden. The new paper mill building is at left.



Refining is done in stock preparation area by seven jordans with a total load of 2,380 h.p.

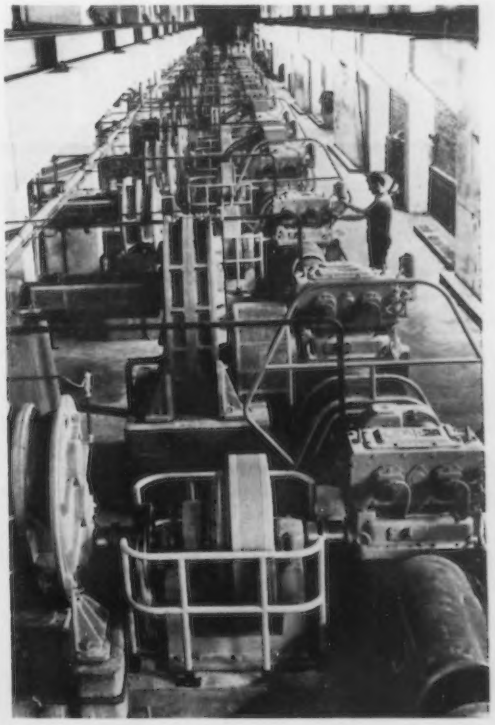
Sweden's Newest Kraft Machine Now in Production

On the seventh of June a new kraft paper mill was started at Wifstavarfs AB outside Sundsvall in northern Sweden. For the new paper mill a machine has been built by the Wartsila-Concern in Finland. The annual production of this machine is calculated to be over 60,000 tons of kraft paper with a maximum speed of 2,000 f.p.m. Consequently, the machine is one of the biggest and fastest paper machines in Sweden. The trimmed width of the machine is 208 inches. A new building, 470 feet long, has been constructed to house the machine. A new warehouse and a new loading wharf, serving the railway lines and the ships, has also been built.

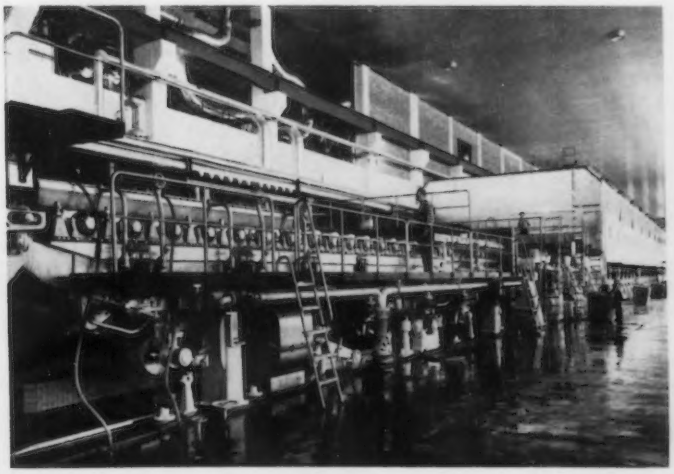
It is calculated that about 15 per cent of the production will be exported to England. Ten per cent will be sold on the Swedish market and the remainder will be exported to various countries, which traditionally buy kraft paper from Sweden.

Wifstavarfs AB, which is one of Sweden's larger forest industry enterprises, also produces sawn timber, kraft market pulp, bleached and unbleached sulphite pulp, wood-alcohol, corrugating medium, and wood fiber tiles.

Paper machine is operated through a differential drive consisting of a main shaft running length of the machine driven by two 815 h.p. electric motors. Each section is delivered power from the main shaft through differential gears, intermediate gears and magneto clutches.



Sweden's newest machine for producing kraft paper, now in use at the Wifstavarf plant, is over 300 feet long and has an annual capacity of over 60,000 tons.



PAPER PEOPLE

R. L. Hoff

M. T. Reynolds

Riegel Chooses Regional Pulp Sales Mgrs.

Riegel Paper Corp. has promoted Richard L. Hoff and Marcus T. Reynolds to the newly created positions of Northeast and Mid-Atlantic regional pulp sales managers, respectively. Roth will report to Frederick M. Jennings, manager of pulp sales.

Mr. Hoff, a graduate chemist from Purdue University, joined the pulp sales department in April 1957 after several years in Riegel's technical and production departments. Mr. Reynolds is a graduate of Williams College. He was assistant sales manager of Albany Felt Co. before joining the Pulp and Paperboard Division in 1960 as manager of sales service.

Catlin Retires as Pejepscot Head

E. Randolph Comee will replace Edgar S. Catlin as resident vice president and general manager of Pejepscot Paper Co. The new appointment became effective June 1, when Mr. Catlin formally retired after 40 years with the paper products firm. He has been vice president and general manager since 1924.

The announcement was made by R. O. Sternberger, vice president of the Hearst Publishing Co., Inc., the parent company of the Topsham industry. Named to fill Mr. Comee's former post as chief engineer is Clayton E. Butcher, who has been an assistant to Mr. Comee for many years.

Mr. Catlin came to Pejepscot in 1921 from the Miami Paper Co. in Carleton, Ohio. His first duty at Pejepscot was to revise the firm's cost accounting systems. He was named vice president and general manager in 1924, and since then has piloted the firm through the ever changing tides of commerce.

LeNarz Joins SPC Fine Paper & Board Div.

Chemical Fine Paper and Board Division, Standard Packaging Corp., has appointed Russell J. LeNarz board mill superintendent.

Mr. LeNarz was formerly superintendent of Angelus Paper Box Co. in Los Angeles, Calif., Robert Gair Co. in Piermont, N. Y., and Federal Paper Board Co. in Bogota, N. J.

Rhinelander Paper Realigns Sales Staff

Rhinelander Paper Co., division of St. Regis Paper Co., Rhinelander, Wis., announces the following sales department appointments.

C. C. Johnson, sales manager, will become vice president—sales, succeeding W. J. Davis, recently appointed vice president and general manager of Rhinelander.

E. L. Mason, assistant sales manager, will become sales manager for the glassine and greaseproof manufacturing firm. P. J. Cooper, manager—merchant sales, becomes assistant sales manager.

R. E. O'Brien, Atlanta sales representative, will be transferred to Rhinelander as manager—merchant sales; A. R. Brunner, Rhinelander main sales office staff, will replace Mr. O'Brien in Atlanta as sales representative.

Six Receive Degrees in Paper Engineering at LTI

Six men received B.S. degrees in paper engineering at the 63rd commencement exercises of Lowell Technological Institute June 11. A class of 138 were awarded B.S. and M.S. degrees with Dr. Martin J. Lydon, president, officiating.

Paper graduates include Bernard T. Coyle, Jr., who will go to Riegel Paper Co.; David G. Lachapelle, St. Regis Paper Co.; Raymond T. Mansur; William J. Swan; Ernest A. Tessier, U. S. Navy OCS; and Norman T. Veillette, Nashua Corp.

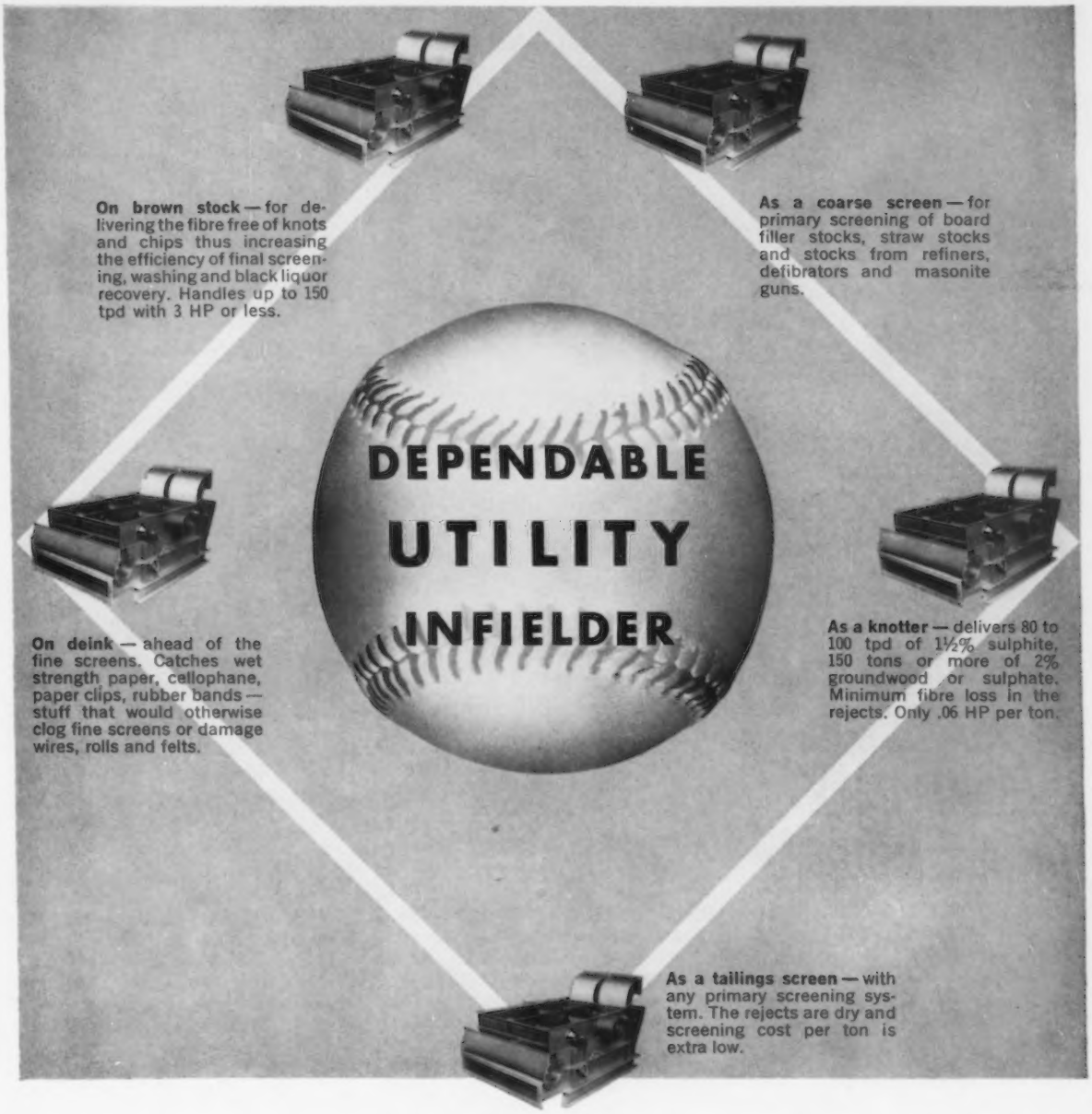
Gordon Gear

A.N.D. Appoints Mill Engineer

R. Brown, mill manager, has announced that Gordon Gear has assumed the position of mill engineer at Anglo-Newfoundland Development Co., Ltd., Grand Falls, Nfld.

Weyerhaeuser Assigns Robison Added Duties

Weyerhaeuser Co. has announced the appointment of Merrill Robison as Western regional sales representative. Mr. Robison undertakes this assignment in addition to his duties as assistant to the manager of manufacturing of the Pulp and Paperboard Division. In his new assignment he will handle pulp sales accounts in the Pacific Coast States, reporting to John Shethar, manager, Midwestern pulp sales, Chicago.


On brown stock — for delivering the fibre free of knots and chips thus increasing the efficiency of final screening, washing and black liquor recovery. Handles up to 150 tpd with 3 HP or less.
As a coarse screen — for primary screening of board filler stocks, straw stocks and stocks from refiners, defibrators and masonite guns.
DEPENDABLE
UTILITY
INFIELDER
On deink — ahead of the fine screens. Catches wet strength paper, cellophane, paper clips, rubber bands — stuff that would otherwise clog fine screens or damage wires, rolls and felts.
As a knotter — delivers 80 to 100 tpd of 1½% sulphite, 150 tons or more of 2% groundwood or sulphate. Minimum fibre loss in the rejects. Only .06 HP per ton.
As a tailings screen — with any primary screening system. The rejects are dry and screening cost per ton is extra low.

The BIRD-JONSSON SCREEN is relied upon for all of these key positions. Use it whenever and wherever you need high capacity and good performance in small space at low screening cost per ton.

Ask for recommendations, layouts and estimates.

BIRD
MACHINE COMPANY

SOUTH WALPOLE, MASS.
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MULTI-METAL FACE WIRES HARMONIZE ON ALL COUNTS

✓ Rugged
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Multi-Metal Single Twist Cable Warp and all popular meshes are available up to 244" wide in stainless steel, Types 304, 316 and 317ELC, and in Monel metal.

Write for Multi-Metal record book and slide calculator. They will be mighty helpful to you—and they're free.

MM MULTI-METAL WIRE CLOTH CO., INC.
1348 Garrison Ave., New York 59, N. Y.

R. H. Savage

Savage Heads WMU Paper Technology Dept.

Russell H. Savage of Chillicothe, Ohio, will become the new head of the department of paper technology at Western Michigan University, President James W. Miller has announced.

"Mr. Savage is most highly regarded for his outstanding work in development and research for the paper industry," said Dr. Miller. "He is ideally equipped to continue the great progress which has been made in the department of paper technology at Western Michigan under the direction of Dr. Alfred H. Nadelman and his successor on an acting basis, Dr. John R. Fanselow."

Mr. Savage, a native of Greenwood, Mass., was educated at the Massachusetts Institute of Technology. He was with the Mead Corp. from 1922 until the present time. During that period he moved from the position of control chemist to vice president of research, holding the latter title since 1947.

Consolidated WP&P Promotes Three

Consolidated Water Power & Paper Co. has appointed Theodore W. Gleue coordinator, inventories of materials and supplies. Mr. Gleue joined the company in 1929 and has been serving as head storekeeper at the company's Wisconsin Rapids Division since 1946.

Darrell M. De Witt has been named to succeed Mr. Gleue as head storekeeper.

Mr. De Witt has been serving as assistant storekeeper since 1956 and has been in the employ of the company since 1937.

Elmer R. Habeck succeeds Mr. De Witt as assistant storekeeper. He began work with the company in 1947 in the stores department at Wisconsin Rapids Division.

Aldrich Joins Mosinee Research Staff

Mosinee Paper Mills Co. has announced the addition of Lyman C. Aldrich to the staff of its research department as senior research chemist.

A graduate of Oglethorpe University, Mr. Aldrich spent 15 years with West Virginia Pulp and Paper Co. where he was group leader in analytical research. His most recent employment was by St. Regis Paper Co. as supervisor of technical service to manufacturing.

D. B. Hilley

O-M Paper and Packaging Division Promotes Hilley

David B. Hilley has been appointed chief industrial engineer for the Paper and Packaging Division of Olin Mathieson Chemical Corp. He reports to M. H. Collet, vice president and manager, forest products.

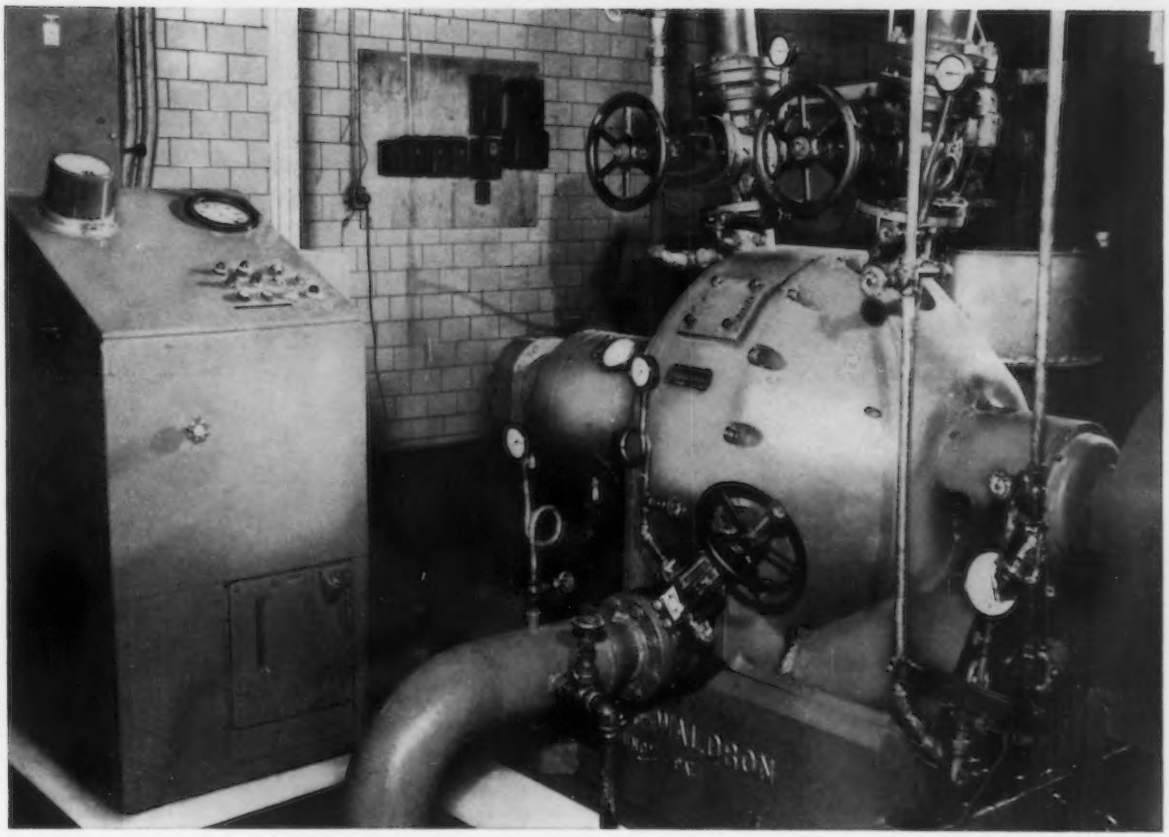
Mr. Hilley had been supervisor of industrial engineering for Olin's Ecusta Paper operations in Pisgah Forest, N. C.

Burgee Retiring at Parsons Paper

Henry V. Burgee, general manager of the Parsons Paper Co., Holyoke, Mass., division of National Vulcanized Fibre Corp., is retiring June 30.

He will celebrate his 65th birthday on June 27, and in accordance with the retirement program of National Vulcanized Fibre Corp., is stepping aside.

Mr. Burgee came to Holyoke in 1927 as a salesman for the Parsons Paper Co. from the Neenah Paper Co. of Neenah, Wis. He was vice-president and general manager of that concern when it was acquired by National Vulcanized Fibre in January 1959.



AT CONTAINER CORPORATION OF AMERICA

SPROUT PRESSURIZED REFINER

gives twice the normal capacity in a single unit

At CCA, Sprout-Waldron's Pressurized Refiner gives *twice the normal capacity in a single unit.* The parallel feed arrangement serves twin refining surfaces, providing twice the capacity of single disc units of equal disc diameter.

Superior quality control results from the unique FLOATING ROTOR which allows you to change throughput *or* capacity with the simple adjustment of the stock flow control valve at the refiner discharge.

Tedious, time consuming refiner *readjustments are virtually eliminated* since pumping action of the Sprout Pressurized Refiner gives the same approximate "unit work" with changes in throughput. This is not the case with single disc pressurized refiners where the entire back of the refining disc is subjected to the refiner discharge pressure which results in an increase or decrease in "unit work" with a decrease or increase in refiner throughput.

If you are looking for mechanical simplicity, high production and uniform quality *plus* low operating and maintenance costs, get the facts on Sprout-Waldron 20", 26", 34" and 42" Pressurized Refiners. *Bulletins are available upon request.*

SPROUT, WALDRON & CO., INC.

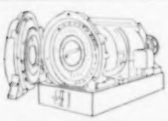
MUNCY, PENNSYLVANIA, U. S. A.

Refiners • Conveyors • Feeders • Screens • Mixers • Driers • Stock Proportioners

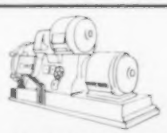
609

SW SINCE 1866

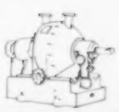
MORE SPROUT DISC REFINERS ARE SOLD THAN ANY OTHER MAKE

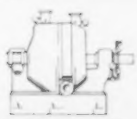


36-1 • REFINERS • 36-2



DOUBLE DISC REFINERS





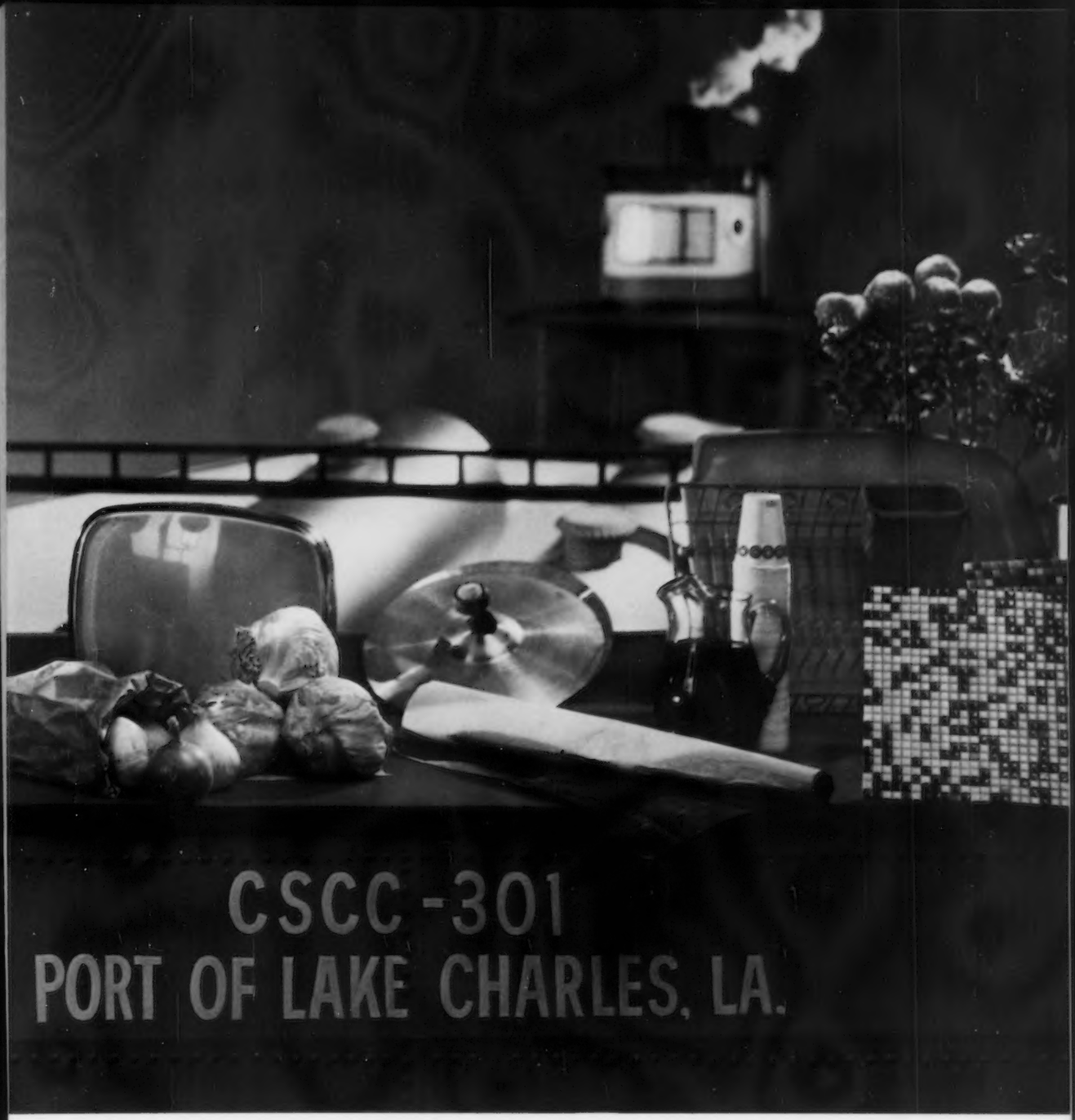
20"-26" • PRESSURIZED REFINERS • 34"-42"

LABORATORY REFINERS

IF YOU BUY VALUE,

YOU'LL LIKE DOING BUSINESS WITH

COLUMBIA-SOUTHERN



Simulated barge with array of finished products symbolizes Columbia-Southern contributions to chemical transportation and chemical processing.

Quality . . . service . . . delivery . . . economy—all these are part of your value picture when you buy Columbia-Southern Chemicals.

Take delivery. Modern Columbia-Southern barge and rail equipment speeds shipments to your plants at any location—on time, as specified. In fact, some standard chemical transportation practices stem from Columbia-Southern innovations. Two examples: the tank car dome safety platform, and a special tank car lining that prevents metallic pick-up by high concentration caustic.

Customer oriented advances like these extend through all Columbia-Southern activity, from sales call to order processing to invoicing. That's why so many leading purchasers in most chemical-using industries like doing business with Columbia-Southern. You will too.

Chemical Division, Pittsburgh Plate Glass Company, One Gateway Center, Pittsburgh 22, Penna. Offices in principal cities. In Canada: Standard Chemical Limited.

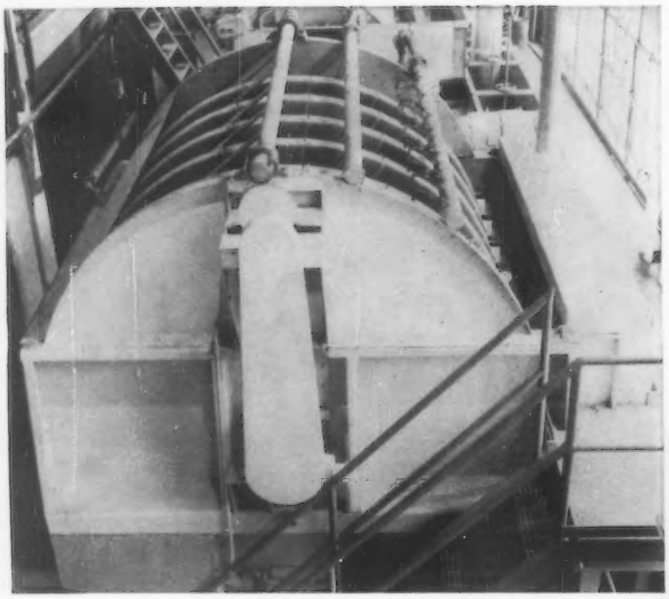
PPG® columbia | southern chemicals
CHEMICAL DIVISION
PITTSBURGH PLATE GLASS COMPANY

Chlorine • Caustic Soda • Caustic Potash • Soda Ash • Ammonia
Solvents • Sodium Bicarbonate • Chromium Chemicals
Barium Chemicals • Sulfur Chemicals • Agricultural Chemicals
Reinforcing Pigments • Calcium Chloride • Hydrogen Peroxide
Muriatic Acid • Calcium Hypochlorite • Titanium Tetrachloride

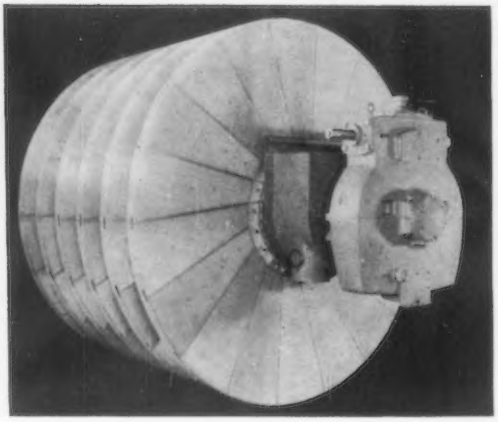
NEW IMPCO

Disc Type Filter Design

At Scott Paper Company, Mobile, Alabama



Molded Discs and One-piece Stainless Core Raise Capacity and Clarity Standards — Due to New Hydrodynamic Design Concept.



Close up your white water system with the new Impco Disc Filter! This saveall concept, with its molded sectors and one-piece stainless core, is a fresh approach to disc type filtering. Hydrodynamic design and latest materials now give you a truly ultramodern filter.

Swept back, molded, lightweight, bonded-face sectors increase capacity and wire life. Contra-flow inlet eliminates pulp thickening in vat. Eighteen ported trunnion and full 180° valve opening produce sharpest filtrate separations. Speeds from ¾ to 4.5 R.P.M. Ask your Impco Sales Engineer for full information and write for Bulletin A5-1.

Above: Six-disc unit minus vat, showing valve and dual filtrate discharge. Filters available in sizes up to sixteen discs. Keyed aligning and attaching device makes assembly of a complete disc the simplest yet. A complete disc consisting of eighteen 22 pound sectors is assembled in one hour.

IMPROVED MACHINERY INC. NASHUA, NEW HAMPSHIRE

IMPCO®

IN CANADA: Sherbrooke Machineries Limited, Sherbrooke, Quebec

PJT NEW EQUIPMENT & SUPPLIES

Batteries Guaranteed for Lifetime of Hand Trucks

Exide Industrial Marketing Division of The Electric Storage Battery Co. now guarantees owners of low-lift electric hand trucks equipped with Exide Nickel-Iron Alkaline batteries at least 80 per cent of rated battery electrical capacity in one-cycle-per-day service for the lifetime of these widely used hand trucks.

Only proviso—even if the multi-purpose trucks last 20 years or more, as many of them do—is that users charge and maintain the batteries properly with approved equipment. Any Exide Nickel-Iron Alkaline battery that fails under these conditions to deliver 80 per cent of rated power will be repaired or replaced free of charge.

The company claims that Nickel-Iron Alkaline batteries: are not injured even if they are not recharged immediately; can be accidentally short-circuited or charged in reverse without permanent injury; can be charged rapidly at high rates, even overcharged occasionally within safe limits; can operate at ambient temperatures as low as minus 60°F; can stand idle indefinitely; don't fail suddenly so that even at the end of normal service life, they are capable of being transferred to service with lighter power demands for added years of operation.

Cell containers, pole pieces, grids, tubes, pockets, connectors are made of steel. The electrolyte, a solution of potassium hydroxide in water, is a steel preservative rather than corrosive. A small quantity of lithium hydroxide added to the electrolyte increases the electrical capacity of the battery and the life of the electrolyte itself.

The positive plates are made of nickel-steel grids holding perforated nickeled-steel tubes that contain nickel oxide active material. The tubes are pressure-locked into permanent position in the grids, and are reinforced by means of seamless steel rings.

The negative plates are similar to the positives in construction except that the iron oxide active material is contained in rectangular perforated pockets instead of in tubes. The cells are assembled into battery units in steel cradles or demountable boxes. Exide Industrial Marketing Division, The Electric Storage Battery Co., Adams Ave., Philadelphia 20, Pa.

CONTROL VALVE, Model 1900, is designed to completely drain the line and valve body of complex fluids, slurries and other flowing media which contaminate or tend to set up and harden in the system. All surfaces slope downstream, making the valve completely self-draining when installed in either the horizontal or vertical position. Alloy valve models are electro-polished. Annin Co., Division of the Worthington Corp., 1040 S. Vail Ave., Montebello, Cal.

Cartridge Rotates to Add Life to Sleeve Bearings

Link-Belt Co. announces the availability of self-aligning, self-lubricating Flex-Block sleeve bearings in flanged and pillow block types. These bearings are designed to operate in temperatures up to 1,000°F.; in corrosive and contaminating conditions; in inaccessible locations where lubrication and maintenance are problems; where noise control is important; at slow speeds and under water.

Their construction is claimed to almost double the normal sleeve bearing life. The sleeve bearing cartridge is held in position in the housing by means of a set screw, which when backed off, allows the cartridge to be rotated 180° thus adding life from the opposite side of the bearing. This is done without removing the bearing from the shaft! Folder 2823, describing Flex-Block sleeve bearings, is available from Link-Belt Co., Dept PR, Prudential Plaza, Chicago 1. Ill.

Two Easy-Access Single-Stage, Double-Suction Pumps

Two designs of double-volute, single-stage centrifugal pumps are now being produced by Pacific Pumps, Inc., a division of Dresser Industries, Inc. Both designs incorporate an axially split case that provides for unusually easy access. Neither suction nor discharge piping need be removed and bearings, packings, seals and the impeller can all be reached in minutes. NPSH is minimum.

Type DS is a water-cooled unit produced in 22 sizes in capacities up to 13000 g.p.m. with a 375 foot differential head. It operates up to 350°F. Type DL is an air-cooled unit produced in 13 sizes in capacities up to 6000 g.p.m. with a 375 foot differential head. It operates up to 250°F.

All 35 sizes are based on only six shaft-size groups. Various bearing types may be chosen. Parts in liquid contact can be fabricated from any commercial metal. Pacific Pumps, Inc., Box 151, Huntington Park, Cal.

C. Ives Gehring
President

Bemis P. Wood
First Vice President

Glen T. Renegar
Second Vice President

PIMA Holds Successful Convention in Jacksonville

Over 500 persons attended the annual convention of the Paper Industry Management Ass'n. held in Jacksonville, Fla., on June 7, 8 and 9. The opening day included the usual business session with reports, elections of officers, etc. There were in addition four papers presented during the day. The remaining two days of the meeting were devoted to visits to the following mills in the area: St. Regis Paper Co., Jacksonville; Hudson Pulp and Paper Co., Palatka; Container Corp. of America, Fernindina Beach; and National Container Division of Owens Illinois Glass Co., Jacksonville. In each case the actual tour of the mill was made in the morning. Following lunch there was a formal question and answer session where representatives of the mill answered questions on their operations.

New Officers Elected

At the business meeting the officers were elected for 1961-62:

President—C. Ives Gehring, Sealright-Oswego Falls Corp., Fulton, New York; first vice president—Bemis P. Wood, Strathmore Paper Co., West Springfield, Mass; second vice president—Glen T. Renegar, Container Corp. of America, Philadelphia, Pa.; third vice president—L. W. Murtfeldt, Consolidated Water Power & Paper Co., Wisconsin Rapids, Wis.; fourth vice president—Robert O. Stephenson, The Champion Paper & Fibre Co., Hamilton, Ohio; fifth vice president—Preston D. Carter, KVP. Div., KVP Sutherland Paper Co., Kalamazoo, Mich.

Bolton Awarded Winners

The following were announced as winners of the Fourteenth Bolton Award Contest, sponsored by Bolton-Emerson with the cooperation of PIMA:

First Prize—Edward L. Schuette, paper tester, Brown Co., Berlin, N. H.

Second Prize—Clifton J. Walker, map draftsman, The E. B. Eddy Co., Hull, Quebec, Canada.

Third Prize—Andrew J. Rego, purchasing understudy, Kimberly Clark Corp., Neenah, Wis.

Other Prize Winners—Robert E. Lee, Jr., quality control supervisor, Rochester Paper Co., Rochester, Mich.; H. S. James, Jr., director of public activities, Union Bag-Camp Paper Corp., Franklin, Va.; Brad Block, research analyst, Kimberly-Clark Corp., Neenah, Wis.; Mrs. Joann Graham, secretary, industrial relations dept., Packaging Corp. of America, Hutchinson, Kan.; Harry M. Bowser, manager—sales services, Dairypak Butler, Inc., Olmsted Falls, Ohio; Thomas H. Schumann, director of industrial relations, The Mead Corp., Leominster, Mass.; and Mrs. Margie Louise Cunningham, secretary, Packaging Corp. of America, Hutchinson, Kan.

Tom S. Coldewey
Outgoing President

Partners in Distribution

G. Welling Pepper, vice president, Scott Paper Co., took as the title for his address "Partners in Distribution." Mr. Pepper explained that the partnership he was talking about was between the production and technical men on one hand and marketing and sales representatives on the other hand. He included in the latter the paper merchants and in a tribute to them stated that the paper merchant is the greatest storehouse of ideas and suggestions which is available to us.

Mr. Pepper said "One of the troubles from which our industry is suffering is that there is an alarming degree of sameness in all of our products. We are all competing in the market place with products which all too often say: "Me Too." We spend our waking hours trying to make products which will meet the customer's needs.

"The companies which stand out are the companies which have dedicated themselves to pleasing the customer instead of matching the competition. The production man

L. W. Murtfeldt
Third Vice President

Preston D. Carter
Fifth Vice President

Harry E. Weston
Secretary

who knows intimately the wishes and desires of the customer is better able to make the product which will sell than the production man who sulks in his plant and justifies his position on the time-worn defense that his product is just as good as his competitor's product."

Recognizing the importance of developing a strong bond of understanding between the production and technical arms of our company and the marketing organization of our company, we at Scott instituted a continuing program which has been both rewarding and highly instructive.

Each executive of our company whose principal responsibility falls in the area of research, engineering and production must spend six full days each year with the various field sales groups within our company, and one full day with our internal marketing group.

Those of us who are primarily involved with marketing must spend four separate days at four of our plants and two separate days in each of two geographically separated woods operations."

Selling More Research

J. H. Winkler, Battelle Memorial Institute, spoke on the subject "Research will develop your future markets." Mr. Winkler pointed out that paper industry expenditures on research during 1961 is estimated to amount to slightly over one half of one per cent of sales. He said the national average now exceeds one per cent and is rapidly approaching two per cent. We should be allocating at least one per cent of sales for research maintained Mr. Winkler.

A list of some industry problems which needed research were presented and are summarized below.

- Magazine publishers are quite concerned about the increasing postal rates. They want a lighter weight paper, having if possible the same bulk and opacity as the papers they are now purchasing.
- Paper having equal printability on both the wire and felt side is desired by many users.
- It should be possible to determine the optimum coating technique to be used for magazine paper stock from the many processes and procedures of coating now available.
- More uniformity in the finish of magazine paper is desired. At present this varies from mill to mill, roll to roll and even within rolls.
- The entire field of printability needs more intensive study and coordination of results. In spite of the many instruments and tests that have been developed the only sure way to determine printability at present is to print the paper.
- In binding, there is a need for a test and a grading system to predict whether a sheet of paper will be suitable for normal "perfect" binding.
- The tendency to curl of endsheets and end-signatures in hardbook binding causes frequent difficulties. A test that could predetermine this tendency would be welcomed by the book binders.
- A comprehensive study of web breaks is needed. If paper can be made on a machine, it ought to be able to be run through a printing press without web breaks.
- Pulp sheets made on a fourdrinier machine are relatively costly. Development of an improved method for drying and baling pulp for storage or shipment is desired.
- The industry is plagued with odor problems especially in the pulping operations. The indirect costs of the odor nuisance is quite sizeable.
- A rapidly growing area in packaging utilizes paper or paperboard that is laminated or coated with a plastic film. It is conceivable that a number of plastic and resin materials could be incorporated in the fibers, or in the sheet as it is being made.
- The whole area of corrosion in the paper industry requires definition and evaluation.
- Opportunities for new markets in the field of expendable substitutes for textiles to make paper products that can be used a few times and discarded.
- Another big opportunity lies in utilizing the chemical by-products of pulping. The biggest potential is in the lignin wastes as speakers have been pointing out for many decades.
- Pulp refining needs to be studied. The refiners now in use vary in design, method of operation and in the nature and quality of fiber modification they accomplish.
- We need many additional improved and new instruments to measure a variety of properties and conditions in pulp and paper manufacturing. Many of the instruments now available do not measure the actual property desired.

In conclusion Mr. Winkler made the following five recommendations for our industry.

1. Increased support of research.
2. Include technological-economic studies in research program.
3. Include some basic studies in research program.
4. Participate in cooperatively sponsored studies.
5. Use contract research facilities to augment company and industry efforts.

B. Slatin, economist, American Paper and Pulp Ass'n. spoke on "The Paper Industry of Tomorrow." Mr. Slatin's remarks are of such interest that we are reproducing them in full on the following pages.

Paper Industry of Tomorrow

Future growth, trends, raw material and resource requirements are discussed. Need for further gains in efficiency and technological improvements are stressed.

Benjamin Slatin,
Economist,
American Paper and Pulp Ass'n.

In the paper industry the need for long-range planning is, perhaps, even more vital than in many other industries. Our major raw material—trees—is renewable, but the cycle of renewal covers a sizable number of years. In addition, a pulp and paper mill represents a very large investment. New mills costing over $50 million are not uncommon, and it takes a long time to recover that much money. Good forestry also costs money, and a firm needs some assurance of a return on money spent. This means it must have good reason to believe that there will be a market for the products made from trees when the growing cycle has run its course.

Long Range Forecasts

Many recently published, long-range forecasts turn this statement completely around, and suggest that the industry, and the nation, should be concerned as to whether there will be enough trees to meet future demand, that the problem will be one of shortage of raw materials—forests in this case—rather than shortage of markets. The way they come to this conclusion, and why it seems to me invalid shall be the theme of my talk. Let us review, first, some of the well known long-range forecasts of our industry.

One of the more famous of the post-war forecasts was that of Stanford Research Institute, prepared for the Weyerhaeuser Co. in 1954. As it turned out, this forecast was somewhat on the low side, yet it stimulated a sizable volume of new capacity building that might not have other wise been built. Other forecasts include that of the Paley Report and one by the Department of Commerce's Business and Defense Services Administration for a Congressional Committee. This last forecast is still current and shows a sizable growth in demand for paper and paperboard in the next five years. If you are interested in the details, the American Paper and Pulp Ass'n. has a limited number of reprints of a two-page article summarizing these forecasts.

The Author

More recently, the Senate Select Committee on National Water Resources requested the Department of Commerce's Business and Defense Services Administration to prepare a forecast of paper and paperboard demand, and of the probable wood requirements of the industry, for the year 2000. This is the forecast I am most concerned about, because this forecast is being seriously considered by the Congress as a basis for present legislation. **The Committee instructed the BDSA to base its forecasts on a set of forecasts of the total economy prepared by the Ford Foundation's Resources For the Future Group.** The Foundation's forecasts envisioned the economy growing at the rate of something over 3½ per cent per year, although the more recent rate has been below the 3 per cent level. The ½ per cent or so difference doesn't look like much, but over a 40-year period it compounds to a large number. Using this forecast, and relating production of pulp, paper and board to total economic activity, the BDSA came up with a figure of domestic production of paper and paperboard in the year 2000 at 240 million tons; last year we turned out 34 million tons. **The BDSA was sufficiently unhappy with this forecast to prepare and publish one of its own, based on a 3 per cent growth of the economy, and coming up with a demand of 155 million tons by the year 2000.** They felt this forecast was more reasonable, and represented a tonnage that could easily be supplied by the forests of the future. Their reasoning was based on the fact that demand for wood for uses other than paper and paperboard was relatively stable, so that the growth in demand for paper and paperboard would increase the present one-fifth of the total cut going to paper to as much as three-eighth without resulting in over-cutting. Both these forecasts were published by the Committee in their report: "Future Water Requirements of Principal Water-Using Industries" (Committee Print No. 8, April 1960).

Problem of Remaining Competitive

These various long-range forecasts are based on the assumption that the paper industry will maintain its competitive position in the economy throughout the forecast period. They assume, usually in some unstated way, that the paper industry will be able to compete with the many new forms of packaging, communications, building materials, etc., that are being introduced almost daily. I, too, believe that the industry will be able to compete, and can point to the steadily growing expenditures by the industry on research and develop-

ment to support this contention. Nonetheless, it may be useful to spell out just what is involved in such successful competition.

First note that forecasts of 3 per cent per year, or 3½ per cent per year, of total economic growth mean that the United States will be continually improving its productivity to permit this growth to occur. This means that every unit of input into the economy—including the forests, farms, water supply, mines, and other natural resources, as well as capital and manpower—will produce an ever-growing number of units of output. For the paper industry it means new productive methods and new products by the papermakers, and ever-growing efficiency in the forest. It means that by, say, the year 2000 every tree used may be doing the work of two, three or four of today's trees. Perhaps trees will be growing much faster; perhaps we will be able to utilize more than the half of the tree we now use; maybe economic ways will be developed to grow trees so that they reach pulpwood size much sooner than they now do.

Possibly species of trees or other fibrous plants will be pulped for use in papermaking that are presently unusable for this purpose. We may have to learn far more about water reuse than we presently know to continue our long-term rate of increase in water-use efficiency.

Gains In Efficiency

The problem of remaining competitive will affect every aspect of papermaking. You know far better than I the tremendous gains in efficiency that have taken place in the paper mill, even since the end of World War II. I can only point to the results and express amazement. In the years immediately following World War II—say starting with 1947—the paper industry turned out 21 million tons of paper and paperboard with 406 thousand production workers. In 1960 the industry turned out 34.3 million tons of paper and paperboard with 447 thousand production workers. If the number of production workers is adjusted for the decline in the average work week that took place over that period, the gain in output per production-worker manhour is shown to be in the neighborhood of 65 per cent, or 4 per cent per year (compound).

These increases in efficiency were not achieved without cost. In dollar terms, the industry spent some $7 billion for new plant and equipment in the 14-year period 1947-1960, and this does not include money spent on maintaining existing equipment. Part of this additional money was, of course, spent to increase the productive capacity of the industry, but part was spent to modernize existing equipment. It is also a fact that the new capacity installed was far more efficient in terms of its ability to turn out greater tonnages in a shorter time with fewer workers than existing equipment. More importantly, this equipment was often designed to utilize raw materials that older equipment just could not handle. The value of the depreciable and depletable assets in the industry rose from $4 billion in 1947 to $5.3 billion in 1960, for a gain of 32 per cent. In addition, the industry increased the number of white collar workers—including, in particular, additional technical and engineering personnel, by 94 per cent in the 1947-1960 period. Today so-called nonproduction workers comprise over 20 per cent of the total number of employees in the paper and allied products industry compared to 13 per cent in 1947. Efficiency gains did not stop at the mill. To remain competitive the paper industry has had no improve efficiencies at every stage of its operations. This included the very set-up of the corporation, as demonstrated by the strong trend toward vertical integration that has taken place. Today many firms control every production process, from the forest to the finished product. In addition, more recently, there has been a trend toward so-called horizontal integration, which enables a single firm to offer its customers a full line of products, whether or not the product is in the paper industry.

The Editor Comments

Mr. Slatin's paper may help to clear up some misunderstanding about projections of our production to the year 2000. This is of particular interest since several publications have presented misleading data on this, in connection with future estimates of coated paper and board production. The figure of 240 million tons production in 2000, which is being bandied about was prepared by the pulp and paper department of BDSA for a Senate Committee which dictated the basis on which this was to be calculated. BDSA personnel were dissatisfied with the 240 million ton figure and for their own purposes made a separate projection on what they considered a more realistic basis and came up with a figure of 155 million tons. Industry experts believe that even this figure is high.

The 240 million ton estimate is therefore purely a Senate Committee figure, apparently without any authoritative backing by economists working in or on our industry. As Mr. Slatin has pointed out, allowing for a very generous population growth to the year 2000, the 240 million tons gives a highly improbable per capita production figure of 1,500 pounds and this is production, not consumption, which latter is historically higher due to imports.

Certainly the experience of the last five years with per capita consumption would not support the bouncing of the per capita production figure up to 1,500 lbs. per person in 2000 and would make the figure of 1,000 pounds per person obtained from BDSA's 155 million tons questionable. As was pointed out in this magazine last month, the per capita consumption figure for the past five years has remained static. The editors of this magazine are not predicting that per capita consumption will not grow from its present 430 pounds per person level, but do feel that the present plateau indicates a definite slowing down and we will need important major new developments for per capita consumption to return to its previous accelerating growth.

"We may have to learn far more about water reuse than we presently know to continue our long-term rate of increase in water-use efficiency."

I am thinking here of the large producers of packaging materials, in particular, although I suppose other examples could be found. The purpose of such mergers is, in part, to increase efficiency in selling and distribution.

Distribution System Changed

The entire distribution system has changed greatly during the post-war period, and it is to be supposed that here, too, major gains in efficiency have taken place. Certainly the truck has replaced the train in a large amount of the tonnage moved out of (and into) the mill. And certainly the materials-handling techniques of 1960 are quite different, and undoubtedly far more efficient, than were those of 1940 and 1950. Possibly I am not correct in my terminology, but I would include in materials handling the entire warehousing problem. Increases in efficiencies reach into the central offices as well as to all other parts of the firm. Here, for example, electronic data processing equipment speeds ordering, billing, payrolls, and bookkeeping, and permits sales analyses and inventory-control procedures that would be impossible under earlier programs. And here, too, is where the impact of the increases in forest, plant and distribution efficiencies meets its final test in the sale of the finished product to the market.

I realize that in our industry a large majority of the tonnage produced is made to customer specifications and is not like production in many consumer goods industries, where the product is made in the hope that it can be sold. But it is nonetheless true that the ultimate test—the moment of truth—is the products ability to compete successfully with the many other products offered to the customer for the same purpose. It could once be said that "paper substitutes for many things, but there is no substitute for paper," but this is no longer true in a good many important paper markets. Even in those markets where it is still largely true, as in the markets for so-called cultural papers, the individual firm may find serious competition from other firms tailoring less expensive grades of paper for use in markets now using premium grades. Thus, even in this case, the long-range demand is not fully assured.

The paper industry today is utilizing the services of professional market research analysts to a greater and greater degree, both as regular employees of the firm and as consultants. The presumption is that these professionals will ferret out markets not yet tapped by the firm, and keep the firm's products flowing smoothly to existing markets by a thorough analysis of the trends and forces within these markets Long-range forecasting is necessary to give the firm direction, and give it sufficient lead time to keep abreast of the market; in our industry construction of new mills is a time-consuming process.

How to Remain Competitive

This leads to what really is the main theme of this talk: how can industry remain competitive in an economy that is using its productive resources more and more efficiently

"In dollar terms, the industry spent some $7 billion for new plant and equipment in the 14-year period 1947-1960, and this does not include money spent on maintaining existing equipment."

or, to say the same thing in another way, what will the paper industry of tomorrow look like? Perhaps I should have said this sooner, but I really do not know what the paper industry of tomorrow will look like, nor, I believe, does anybody else. I have gone over with you just a few of the areas in which the industry has changed, and changed drastically, during the post-war period, as it increased its efficiency in the use of all its resources; land, labor and capital. If we were to go back 40 years, rather than 14, to the early 1920's. I think we would find the changes even more startling.

I cannot even begin to name all the important developments in the paper industry since 1920, but I would like to pinpoint just a few, to indicate the kinds of things that must happen in the future if the paper industry is to remain competitive. Possibly, by looking at the past, we can see potential for the future.

Looking at Past Developments

Let us start with the successful development of pulping Southern pine by the kraft process. Then consider the development of the kraft paper and containerboard industry in the South. Still in the South, but somewhat later, think of the development of the newsprint industry, which had virtually left the United States and moved to Canada. Then move on, still in the South, to the development of the process of bleaching Southern kraft pulp, and then of making dissolving and high alpha pulp from Southern pine. Next, consider the development of semi-chemical pulp, which made possible the use of hardwood trees in the South. Then, remember the growth of bleached kraft board as special food board and in other non-food packaging uses. Move over to the West coast, where paper mills were going up utilizing wood chips left over from sawmill and plywood operations. Finally, compare the size of today's mills and machines with those of 40 years ago. Think, too, of the changes in the American economy that were occurring: the revolution in distribution alluded to earlier, which opened up a huge market to paper and paperboard packaging materials. Think of the new appliances that came into being, first radios, then television sets, first refrigerators packaged only in wood, then all kinds of appliances, large and small packaged in corrugated shipping containers. Think of the development of paperboard containers and cartons for packaging fresh fruits and vegetables. Think of the development of new kinds of printing presses which required an ever increasing volume of paper. It's difficult to stop once you start, but I know this list is "old hat" to you.

Must Improve to Grow

Nonetheless, I repeat it to point out that it is these types of development that must take place in the fu-

"But it is nonetheless true that the ultimate test — the moment of truth—is the product's ability to compete successfully with the many other products offered to the customer for the same purpose."

ture if the paper industry is to remain competitive in the world of tomorrow. If, as the Senate Committee forecast put it, we are to make 240 million tons of paper and paperboard per year in the year 2000 —or even 155 million tons—the kinds of efficiency increases, the kinds of product developments, and the very movement of the economy itself, will have to be of the nature of the changes that have taken place over the last 40 years. We cannot say exactly how they will come about, any more than, in 1920, we could foretell the specific developments that would take place in the 40 years following that date. It is true that the trend of paper and paperboard production already established by the early 1920's could have been accurately extrapolated to the 1950's to give a reasonably correct tonnage answer.

One forecaster, toward the end of the 1930's, extrapolated the trends he saw unchanged to 1950, and came up with the right answer. He could not tell what developments would occur to validate his forecast, but he could say that if the industry continued to develop as it had been doing, if it continued to increase its efficiencies in the use of all its resources, if it continued to develop products required by the changing American economy as it had been doing in the past two decades, then it would achieve the goals he set.

No Danger of Resources Lack

If the industry can continue to increase its efficiencies in the use of all its resources then, on the one hand, there will be no danger of running out of any such resources, whether they be land, trees, water or manpower, even at the 240 million ton level, and, on the other hand, the market for these products will be virtually assured. If the economy is to grow at 3 per cent per year, or at 3½ per cent per year, it will mean that the nation as a whole has become that much more productive, turning out more and more goods per unit of resources input, which, in turn, will mean that the average industry in that economy will have to match the national increase in efficiency to remain competitive. For the paper industry, it will mean that it is producing products at competive prices, and that these products are more efficient in performing whatever services they are called upon to render than are competive products.

Such services may be similar to present ones, as in cultural, home, packaging industrial or construction paper and paperboard. They may well include entirely new ones, such as are hinted at now in paper clothing and other fabrics, in products of knotted or twisted papers, in laminates of paper and plastics, or in new uses as far off in the future as special food board and tabulating card stock were in the 1920's. These products will be turned out in so efficient a manner that the industry will be as fully competitive and viable as it is today.

I personally believe that management in our industry is alert to the challenges, problems and opportunities of the future, as witnessed by their ever-increasing emphasis on all types of research. I believe that the industry will respond to the challenges of the future as it has in the past, so that the paper industry of tomorrow, whatever be its exact form and structure, will grow with the nation and continue to be as essential to the well-being of that nation as it is today.

Paper presented before the 42nd Annual Convention of Paper Industry Management Ass'n., Jacksonville, Fla., on June 7-9, 1961.

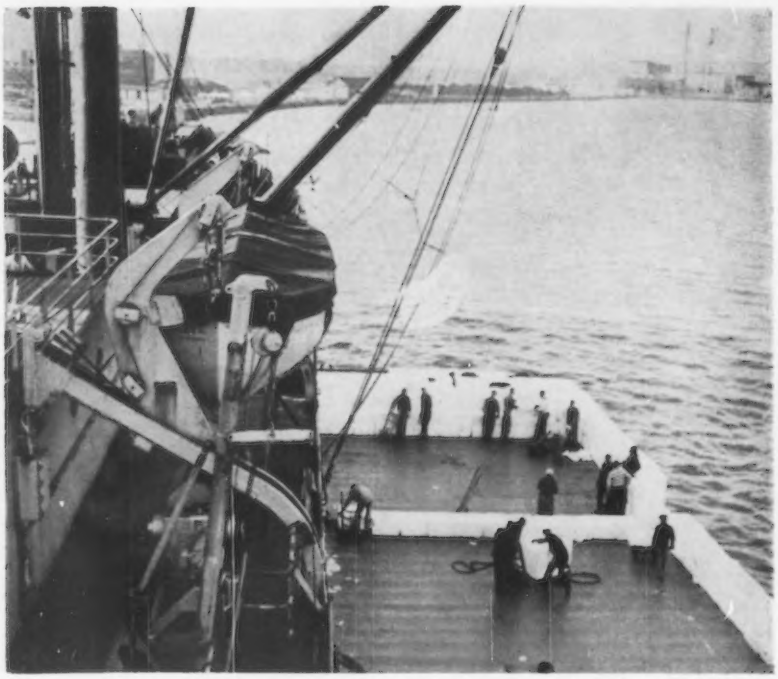
How Ceramic Cones Saved Cleaners From Destruction

Despite the fact that these stainless steel fragments had been circulating for several hours in a high-velocity Bauer Centri-Cleaner system in a southern pulp mill, they caused no damage or wear to the cleaners.

According to mill personnel, Baueramic lower cones had been installed only a week before on the 23 four-inch cleaners used in the 550 t.p.d. semi-bleached kraft pulp mill. Being more wear-resistant than metallic alloys, the special ceramic cones showed no signs of wear or scratching after their ordeal. Instead, they actually had honed smooth many of the jagged edges of the steel pieces before the fragments could be recovered from the system. Some of the pieces measured more than 2¼ inches across and over ¼ inch in thickness.

A spokesman for the Cleaner Division of The Bauer Bros. Co., Springfield, Ohio, which supplied both the cleaners and the ceramic cones, said that abrasive foreign material such as tramp metal is capable of completely destroying a Centri-Cleaner under normal operating conditions.

In addition to the protective value afforded by the ceramic cones, this mill also discovered that the cones solved one of its most severe operating problems. This mill's pulp, made from southern pine, dewaters very easily and had previously caused constant clogging of the cleaner orifices. With their smooth interior surfaces, Baueramic lower cones eliminated this trouble.



PULP BEING LOADED from cargo ship to lighter at the marine terminal. Lighter will be towed by tug to the plant.

Scott Emphasizes Flexibility in Pulp Handling at Big Tissue Plant

Cargo ships and ocean barges play a big part in supplying vast quantities and varieties of pulp for ten paper machines at the company's non-integrated Chester plant.

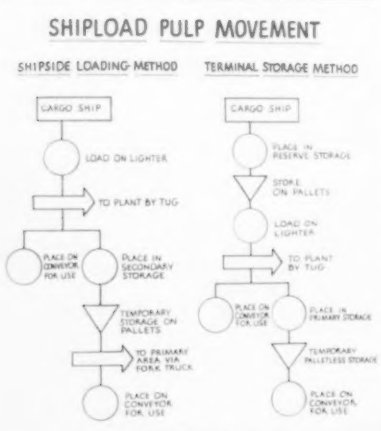


FIGURE 1

More than one and one-half million pounds of pulp are fed daily into the fan pumps of the ten paper machines at Scott Paper Co., plant in Chester, Pa. It's a big job to maintain a constant supply of the proper pulps for this operation. To accomplish this task efficiently, personnel of the plant traffic, marine, and pulp preparation departments must combine careful planning with sound material handling techniques.

A variety of pulp is ordered, shipped, handled, stored, and metered to obtain furnishes necessary for the multi-brand, tissue manufacturing operation at the Chester plant. In general, four types of pulp are required: bleached sulphite, unbleached sulphite, bleached kraft and groundwood. From these four general categories, up to 28 different varieties of pulp are handled. All pulps arrive in the standard wired bale, each weighing from 400 to 500 pounds. Pulp is shipped directly to the plant site or to marine terminals at Philadelphia and Wilmington from pulp mills located in Washington, Oregon, Alabama, Georgia, Maine, and Canada.

Cargo Ships Bring 50% of Pulp to Plant

About 50 per cent of the pulp consumed at the Chester plant is shipped into the ports of Philadelphia and Wilmington via ships which, on the average. carry a pulp cargo of about 4,000 tons. In port, pulp is placed either in storage at a marine terminal or loaded directly onto deck

lighters which subsequently are towed by tug to the plant. The latter method of ship-side loading represents a considerable saving in time and handlings (as illustrated in Figure 1), and every attempt is made to adhere to this type of movement. Thanks to continued efforts by the plant's marine department, ship-side loading has been increased to include 60 per cent of all cargo ship volume. At the marine terminal, bales of pulp are palletized and moved to storage by lift truck. As needed, stored pulp is loaded on lighters for movement to the plant.

Pulp from Brunswick, Ga., is shipped directly to the plant site by ocean barges which normally carry 1,500 tons of pulp. These barges are unloaded by crane at a secondary storage area dock where the pulp is placed either upon lighters for immediate consumption or upon 60 inch x 60 inch pallets for temporary storage.

Rail shipments to the plant are received either at the primary or secondary storage areas, and pulp shipped in this manner is unloaded by chisel fork lift truck.

Three Storage Areas

Three basic storage areas are in operation — the primary area, which is physically attached to Pulp Preparation; the secondary area, which is some 500 yards downstream on the Delaware River; the reserve areas, which are located less than 20 miles from Chester.

At the primary location a dock area is provided for palletless storage. Two cranes are manned at this site to load the breaker conveyors with pulp from the dock and from the lighters. Ten lighters are used for river transportation and as floating primary storage areas. Each lighter is 35 feet x 110 feet and can accommodate up to 650 tons of pulp.

The plant's secondary storage area is used for short-term palletized and palletless storage. Docking facilities are available for the Brunswick barges. Equipment at this location includes two mobile cranes, a 20,000 pound lift truck for handling palletized pulp to the primary area, a 250 h.p. work boat for shuttling lighters between the storage areas, rail sidings, and five 4,000 pound lift trucks for unloading freight cars.

The marine terminals—called reserve storage areas—offer docking facilities for cargo ships, sheltered warehousing, palletized storage and cranes. Pulp storage for approximately two weeks' demand is available at the plant's primary and secondary storage areas.

Use of Storage

The traffic marine department is charged with all pulp handling and movement responsibilities except for those in the primary storage area where storage is handled by the pulp preparation department. Pulp is

HUGE DOCK on Delaware River serves a primary storage area for bales of pulp. At left are lighters used to move pulp from one area to another. These bales are eventually transported into pulp preparation department via conveyors at right.

SAMPLES of all pulp are tested before approved ▶ bales are carried to breakers, via spur conveyors.

ALL PULP is sampled and tested quality when it reaches a Scott papermaking plant. Then pulp bales are fed into breakers such as these at the company's Chester, Pa., plant.

ordered daily from the traffic department according to the paper mill's brand requirements.

As needed, the traffic department transports (by lighter) pulps which are not available at the primary area. When a single lighter is moored at the primary location, it may contain as many as four different kinds of pulp. Pallet loads of specific pulps are also moved into the primary area by the traffic department.

Moving Pulp to the Breakers

Furnish demands dictate the type and quantity of pulps to be delivered to the breakers. Dock pulp delivery crews use cranes equipped with gang hook spreader bars to move the bales from primary storage areas to inclined slat conveyors. Eight bales are handled during each crane cycle.

Five main slat type conveyors carry baled pulp from the dock of the primary storage area to eleven breaker spur conveyors, each of which has the pulp-holding capacity of one furnish requirement. Baling wire is removed en route.

Once on the conveyor, the pulp becomes the responsibility of a pulp preparation tank operator. The operator delivers the pulp to the breakers, completes the furnish recipe by adding water, broke, chemicals, and dyes, and oversees proper blending procedures. Each furnish is prepared by brand, and the batch is ready for the paper machine system upon pumpout. The pulp, now in the form of furnish, is pumped to the appropriate paper machine through a complex of pipe lines.

Broke from the paper machines and the finishing sections is fed into special brand systems where it is slushed and metered into the breakers and pulpers as required for furnish.

Flexibility for Efficiency

Plant personnel have found no "one" perfect way to accomplish the pulp handling function. Many variables exist, including inbound volume, production swings and variations, equipment availability, pulp varieties and weather conditions. Therefore, each major handling and movement requirement is evaluated separately to determine the most efficient method under existing conditions.

These requirements can be met however, thanks to Scott's handling operations which feature flexibility in: (1) pulp ordering and scheduling procedures, (2) unloading cargo ships, (3) barge unloading, (4) lighter usage, (5) secondary storage area usage.

"Operation Flexibility" is also in evidence in the breaker system. With minor exceptions, the tank operator may route a furnish from any breaker to any of ten paper machines. Flexible operating procedures have become necessary because of increased production, product diversification, and from efforts to reduce operating costs.

Key is Teamwork

As in all its operations, Scott relies on teamwork. Department heads of pulp procurement, plant traffic, technical control and pulp preparation immediately become involved as a unit whenever long or short range problems of pulp supply occur. Changes in over-all procedure and technique are continually investigated by the four departments to further improve the existing methods.

The traffic marine supervisor and the pulp delivery supervisor administer and coordinate day-to-day operations, thus assuring quick attention to such matters as production allocations, area pulp inventories, shipment schedules, and efficient equipment activity. Orders for movement of pulp between the traffic and pulp prep departments are made orally. This teamwork is the key to the pulp handling operation at Scott.

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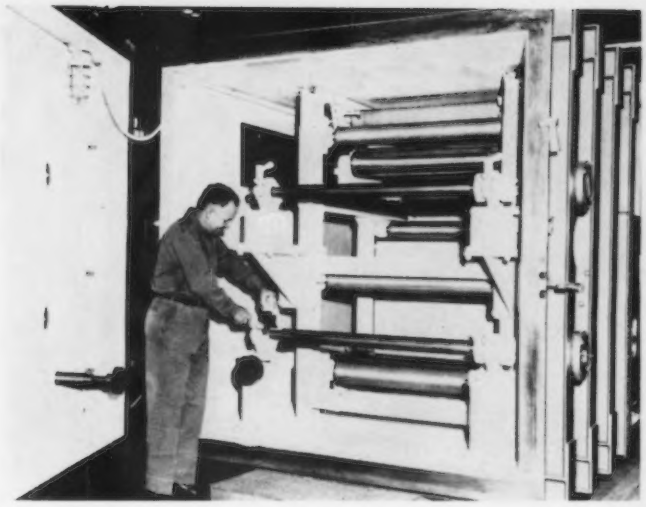
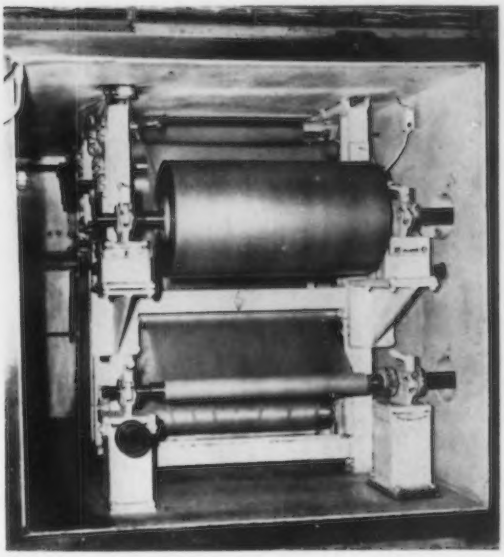


Continuous mill-roll lengths of uncoated glassine are placed in this chamber where aluminum is vaporized and condensed evenly on the glassine

Special vacuum deposition equipment has a full opening door at one side. Equipment will handle rolls up to 40 inches wide and 36 inches in diameter.



Nicolet Aims To Cut Packaging Costs with Aluminized Glassine

Using vacuum metallizing equipment, Nicolet bids for a bigger share of the packaging market.

High-speed aluminum coating of glassine in continuous mill roll lengths is being successfully carried out by Nicolet Paper Corp. (a subsidiary of Milprint, Inc.) at West De Pere, Wis., in special vacuum deposition equipment designed and built by F. J. Stokes Corp., Philadelphia, a pioneer in the field of vacuum metallizing procedures.

The aluminum-coated glassine is now being commercially offered by Nicolet in 25-lb. through 50-lb. basis weights, at prices which promise significant reductions in packaging costs. Comparative price estimates show that the 25-lb. material can be used satisfactorily, and at substantial cost-savings, in applications where .0035 foil-tissue or foil-sulphite laminations are presently being used, according to a spokesman for Nicolet.

Better Light Barrier

The reflective surface substantially increases the glassine's light-barrier properties, and controlled dead-fold characteristics are assured by special plasticizers added to the glassine during its manufacture, which should make the new material an active competitor to aluminum foil. The stock is processed at normal mill-moisture content, and requires no special preparation or conditioning before coating.

The Stokes vacuum coating equipment has been built to mill-type standards and is a rugged, dependable unit which has proved that it can stand up to continuous day-in, day-out operation. The chamber, somewhat resembling a large bank-vault, has a full-width, full-opening door at one side, to provide the maximum accessibility for loading and unloading the rolls of stock. This assures rapid turn-around and short processing cycles. The unit will handle rolls up to 40 inches wide and up to a maximum of 36 inches in diameter.

The aluminum is evaporated from an electrically heated "boat," which holds the molten metal at a temperature of 2500 deg. F. The metal-source holds a 10-hour supply and has been designed for long life without maintenance.

Microthin Al Coating

With the roll of uncoated stock in place, the door is closed and the chamber is evacuated to a pressure of approximately one micron, at which level the aluminum vaporizes in the form of minute droplets. These condense on the paper as it passes swiftly above the "boat" in a microthin coating of pure aluminum with a thickness of 3½ millionths of an inch.

Smoothness and luster of the finished product depend on the grade and type of glassine that is being coated. The material is strong, grease-proof, and odor-resistant.

Nicolet aluminum-coated glassine has already been used commercially in the making of bags for ice cream bars. Its protective qualities and attractive appearance make it a logical choice for many other packaging applications, including candy bar wraps, potato chip bags, decorative box liners for cookies and confections, labels, and numerous other purposes. Its lustrous metallic surface provides an especially appealing background for color printing, and it has been successfully printed by flexographic process.

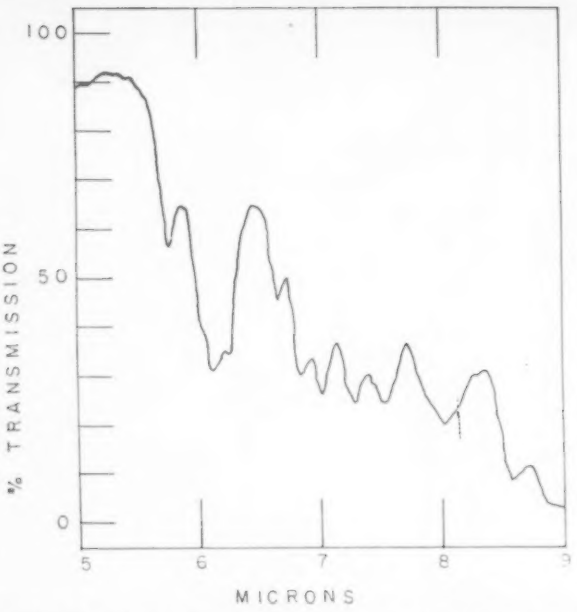


FIGURE 1—Infrared spectra of groundwood. The characteristic absorption band is present at 6.6 microns.

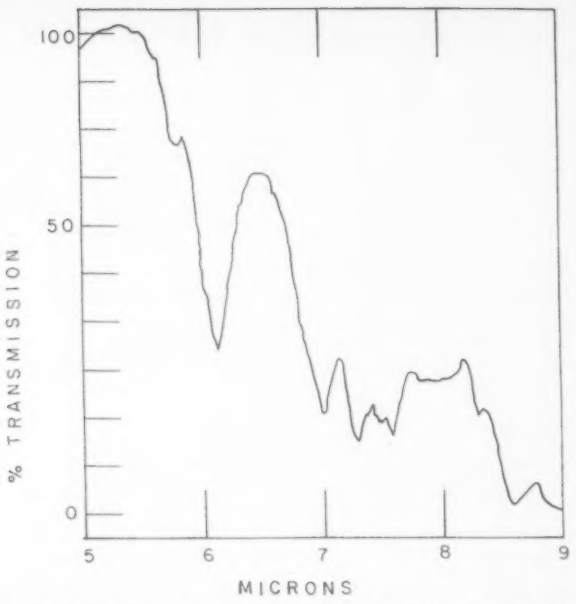


FIGURE 2—Infrared spectra of kraft and sulphite wood pulp. Absence of absorption band at 56.6 microns is shown.

How to Identify Pulp Types In Felt Plugging

Thomas F. Rust, Arthur E. Manasian and Ralph H. Beaumont, Jr.
Huyck Felt Co., Rensselaer, N. Y.

A newly developed technique for the identification of the various types of wood pulp removed from plugged felts.

In the operation of many paper machine felts there is probably no more important question today than how to decrease plugging. Not only does plugging cause premature removal of felts, but throughout their life operation is impaired. Crushing, poor finish, blowing, and increased steam costs are only a few of the problems caused by filling up.

Plugging materials may consist of things such as alum, size, latex, wet strength resins, numerous fillers, or pulp fibers. To understand adequately felt plugging so that it might be corrected, it is necessary to know what the plugging materials are and their source. In this paper we present a newly developed technique for the identification of the various types of wood pulp which are removed from plugged felts.

The Problem

Through the years our laboratories have developed many useful methods to identify felt plugging agents. The results of much of this work have been made available in the widely accepted Felt Cleaning Selectograph and in Huyck Felt Bulletin "Cleaning Papermakers' Felts" (1). Together they include the latest information on cleaning materials and techniques, and are the most complete and comprehensive guides available on felt cleaning. It is recognized, however, that this type of data only partially fulfills the papermaker's need and that a more comprehensive understanding of the felt plugging material is required.

As might be expected, pulp has been found to be the most common plugging ingredient. A procedure for its analysis is therefore essential before we can learn how and why it gets into the felt. Staining techniques such as the Herzburg or the modified iodine (2) procedure are commonly used to identify wood pulp types. Unfortunately the results with these techniques are not always reliable as the interpretation of the stains is entirely at the discretion of

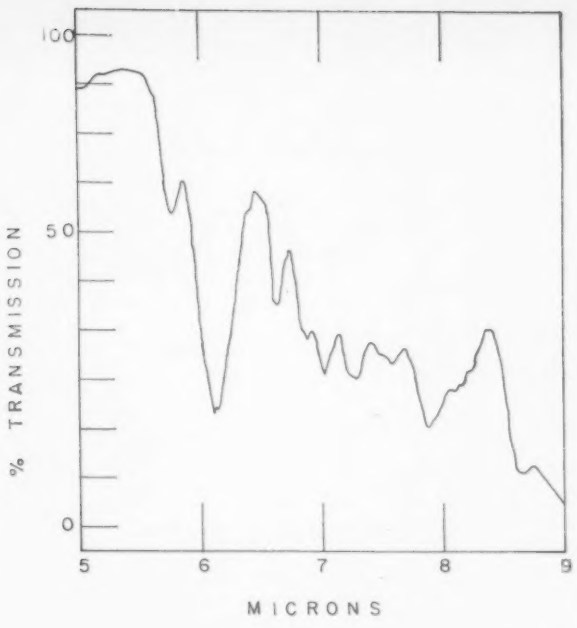


FIGURE 3—Infrared spectra of chemi-groundwood. The characteristic weak absorption band is present at 6.6 microns.

the operator. To avoid these uncertainties a rapid and accurate procedure for the identification of wood pulp types such as groundwood, chemi-groundwood, sulphite and kraft pulps has been developed.

Identification Procedure

By passing infra-red radiation through a sample of organic material, as is conventionally done with an infra-red spectrophotometer, a distinctive spectrum is obtained. Thus, any material that is partially transparent to infra-red (3) radiation is readily identified. Experimentally we use what is known as the potassium bromide pellet technique for obtaining spectra. Potassium bromide being transparent to infra-red is mixed with small samples of the unknown pulp. This mixture is pressed into a pellet and placed in the light beam of the spectrophotometer.

Typical spectra are shown in Fig ures 1, 2 and 3. These spectra are very similar but a characteristic difference is seen at a wave length of 6.6 microns. This strong absorption peak is shown in Figure 1 for groundwood pulp. This peak disappears for the kraft and sulphite spectra, Figure 2, but reappears to a lesser extent in the spectra of chemi-groundwood pulp shown in Figure 3.

The characteristic absorption band at a wave length of 6.6 microns has been shown by Liang and co-workers to be caused by lignin (2). As might be expected, groundwood which has not been chemically delignified shows a strong absorption band at this wave length. Kraft and sulphite pulps with their lignin removed, have no such characteristic bands. Chemi-groundwood or a mixture of groundwood and chemical pulp can be identified by the presence of a weak band.

Summary

This procedure has been used routinely to identify different types of cellulosic felt plugging material. It is a rapid and accurate analytical method requiring only a small sample of wood pulp for analysis. It does not rely upon visual observance of staining but upon mechanical measurements.

With a knowledge of the type of pulp filling the felt, the papermaker is in a much better position to correct the problem at the source. He and the felt service engineer are also more able to specify the best method of felt cleaning. In future papers, specific examples of the usefulness of this analysis will be cited.

BIBLIOGRAPHY.

1. Beaumont, R. H. and J. L. Hanchette, **Huyck Felt Bulletin** No. 3 (1959).

2. Liang, C. Y., K. H. Bassett, A. E. McGinnes and R. H. Marchessault, **TAPPI**, *43*, No. 12, 1017-1024 (Dec. 1940).

3. Sutermeister, E., "Chemistry of Pulp & Paper Making", John Wiley & Sons (1941).

PJT NEW LITERATURE

Ingersoll-Rand
Chemical Pumps

Describes a complete integrated line of pumps which meet the expanding needs of the chemical industry. New designs, materials and features, and also approximate dimensions and coverage chart are included. Bulletin, 8 pp. Ingersoll-Rand, 11 Broadway, New York 4, N. Y.

Pre Hi
Rotary Sheeter

Gives complete description and standard size chart. Sheeters are designed for mechanical speeds of over 1000 f.p.m. Bulletin 16 PH. Smith & Winchester Mfg. Co., So. Windham, Conn.

Rockwell-Republic V6
High Pressure Valve

Describes in detail valve which handles high-pressure steam, water, gas, oil and air on "open and tight shutoff" applications. Bulletin SRM 709.21. Republic Flow Meters Co., 2240 Diversey Parkway, Chicago, 47, Ill. Canada: Republic Flow Meters Canada, Ltd., Toronto, Ont.

Schlumberger
Analyzer

Discusses the basic principles of nuclear magnetic resonance analysis and covers a great variety of product quality control, process control, and research uses for nuclear magnetic resonance analytical techniques in paper, plastics and many other industries. Diagrams and charts are included. 12 page brochure. Ridgefield Instrument Group, Schlumberger Corp., Ridgefield, Conn.

Selected Listing of
Testing Machines

Lists 69 categories of physical testing such as abrasion, hardness, moisture, impact, tensile and 64 additional categories. A total of 461 testing machines is covered. This valuable reference manual for technical and purchasing executives, educational institutes and government agencies also includes price information. Testing Machines, Inc., 72 Jericho Turnpike, Mineola, N.Y.

Series C Chempumps
For Leakproof Pumping

Includes description, design features, construction, cooling system, special applications for this trouble-free leakproof pumping of corrosive, toxic, explosive, radioactive and other problem fluids. Bulletin 1051-1, Chempump Div., Fostoria Corp., Huntingdon Valley, Pa.

How Our Industry Is Doing in 1961

W. LeRoy Neubrech,
Ass't Director for Pulp, Paper and Paperboard,
Forest Products Division,
U. S. Dept. of Commerce

This economic review points out that in the first quarter output was off less than three per cent compared with a year ago. Since then there has been a definite upswing. It is predicted 1961 output will top the 1960 record by two per cent.

It appears that "X marks the spot" for the pulp, paper, and paperboard industry in 1961. The downward slope of the total paper and board production trend line during 1960 is apparently being more than offset by a somewhat steeper upward trend line in 1961, thereby forming a graphic "X" on chart paper. The upward trend is expected in both the paper and paperboard grade groups. However, building paper and board may be slower in showing an uptrend. On the calendar, it appears that "X will mark the spot" at approximately midyear, possibly sooner, when the 1961 upward total paper and board production trend line will cross the downward line of 1960.

According to forecasts, which displayed restrained optimism, output of paper and board was expected to increase two per cent in 1961 over 1960. However, as of late April, and during May, industry executives were heartened by the substantial strengthening in new orders for most grades, particularly for paperboard. For the first time in many months, order-backlogs have been built up by many mills and industry ratios of total production to capacity have been at a higher level in recent weeks.

As one Department of Commerce Field Office states, in referring to the current situation, "Again there comes the word of some encouragement over the turn of attitudes and demand during the past 30 days." This observation aptly portrays a renewed spirit of optimism reported by Commerce Field Offices in various sections of the country. Industry executives now seem to expect demand and output for the year to exceed earlier forecasts. Though not every mill nor every grade is experiencing the same strenthened demand, Commerce field reports state that some companies booked 5-10 per cent more new orders during May than in May 1960.

Growth in Consumer Demand

The current increased consumer demand is being reflected almost immediately at the mill level. This is the consequence of merchant and converter inventories having remained at comparatively low levels relative to sales volume. Commerce Field Offices advise that merchants and converters reported pipeline inventories unchanged through mid-May. However, as the level of actual consumption increases, it could be anticipated that inventories would also be enlarged, thereby adding to new orders and production. Further, it could develop that tendencies toward price strengthening would likewise lend some incentive toward inventory accumulation somewhat above recent stock-sales ratios.

The industry is in an excellent position to meet an enlarged demand for its production, not alone from the standpoint of sufficient capacity but also as a result of numerous plant modernizations, improved operating efficiencies, and general cost reductions in manufacturing and distribution. For that matter, both current and long-range plans for most companies call for still further modernization and increased efficiency, and, as time goes on, some additional new capacity.

Raw Material Picture

Raw materials for the industry have continued in good supply in all fields at steady prices. During the first quarter of 1961, pulpwood consumption was slightly greater than in the first quarter of 1960, while the production of wood pulp of all grades was down a little. The principal factor sustaining the level of pulp production during the first quarter was the important increase in exports of about 22 per cent over a year ago. Further, some increase occurred in pulp inventories at mills. Actual consumption of wood pulp by the paper and board industry was down 3.3 per cent, while non-paper grades of pulp declined 8.8 per cent Waste paper continued at a comparatively low level, consumption running about 5.5 per cent below last year's first quarter

First Quarter Output

Domestic production of all grades of paper totaled 3.9 million tons in the first quarter of 1961, declining 2.4 per cent from a year ago. Paperboard output of 3.8 million tons was down 3.2 per cent and construction paper and board, at 672,000 tons, was down 13.4 per cent. The lagging demand for various grades of building paper and building boards has been a significant factor in reflecting the lowered level of total paper and board production, which amounted to 8.4 million tons in the first quarter of 1961, a decline of 3.7 per cent below the same period of 1960. However, recent building trade reports point to a noticeable upturn in new housing starts and construction in general. This factor should have a favorable influence on the demand

"For the first time in many months, order-backlogs have been built up by many mills and industry ratios of total production to capacity have been at a higher level in recent weeks."

"Recent building trade reports point to a noticeable upturn in new housing starts and construction in general. This should have a favorable influence on the demand for building material."

for building material and assist in bringing the output of these grades to at least the level of a year ago, if not higher, during the third and fourth quarters.

Rising Demand

Trends in industrial market output and general business activity, which generate demand for paper and paperboard and in turn for the raw materials used in their manufacture, appear encouraging.

Converted paper and board products industries, which consume 46 per cent of total paper and board output, showed production increases of 2 per cent for March and 5 per cent for April over the respective months of 1960, according to the Federal Reserve Board Index of Industrial Production. These were the first increases of this type since November of 1960.

Printing and publishing industries, which account for 30 per cent of paper and board demand, have shown monthly production increases over year-earlier levels for more than a year, registering the largest gain of the current year, 3 per cent, in April.

Overall retail and wholesale activity, which reflects the demand for paper and paperboard packaging materials through the movement of all merchandise, and directly accounts for over-the-counter sales of paper and board items, has improved, according to recent reports.

New Developments in Newsprint

Frequent reference has been made in earlier issues of this report to intensified market research and new product development on the part of the industry. A recent example is a new form of newspaper color advertising, the preprinted newspaper advertisement, which has grown in the past two years from an experiment to an established medium of advertising. Preprinted in full color gravure, delivered to the newspaper in rolls, it is run with the regular newspaper press run, the back of the insert being printed by the newspaper with standard editorial and/or advertising matter. Printed on either roto newsprint or regular newsprint grades, the advertising is in lifelike color of uniform quality in every newspaper carrying it. Newspapers can overprint on the preprinted side, carrying such localized material as dealer names, coupons, regional prices, and testing copy.

The medium offers great flexibility in publication dates and can be made to fit in with or spearhead special marketing plans. Its attractive appearance makes it specially useful for display and merchandising prior to or concurrently with the appearance of the ad. Substantial newsprint tonnage may result from this development.

The prevailing strength in foreign market demands for pulp, paper, and paperboard is reviewed in a following section of this report on "Export Trends."

Industry Exports Boom in First Quarter

Fred Bryer,
Export Trade Specialist,
U. S. Dept. of Commerce

First-quarter 1961 pulp, paper, and paperboard exports increased markedly over the same quarter of 1960, chiefly because of increasing economic activities in many areas of the world and more aggressive foreign sales efforts on the part of U.S. exporters.

Exports of wood pulp amounted to 307 thousand tons, a gain of more than 22 per cent over the first quarter of 1960; paper exports of 90 thousand tons gained 16.7 per cent, and paperboard foreign sales rose to 140 thousand tons, 33.2 per cent above the 1960 mark.

Newsprint exports in the amount of 42 thousand tons, as compared with 24 thousand tons a year ago, comprised the bulk of all paper exports. Also, gains were made in shipments of groundwood paper, absorbent papers, and other specialty grades, whereas shipments of book papers, writing papers, and kraft paper grades fell below first quarter exports of 1960.

Exports to Western Europe

Western European purchases have contributed greatly to the industry's export gains during the past decade. The favorable upward trend in 1960 purchases continued in the first quarter of 1961.

Exports to the six-nation Common Market, officially known as the European Economic Community (EEC), comprising Belgium, France, West Germany, Italy, Luxemburg, and the Netherlands, were markedly higher than a year ago, resulting mainly from an increase in pulp shipments to France and containerboard shipment to Italy.

The European Economic Community Commission forecasts a continued economic expansion within the Common Market. The rate of growth in industrial production in 1961 may be six to seven per cent greater than in 1960, and gross national product (GNP) four to five per cent. Con-

"Exports of wood pulp showed a gain of more than 22 per cent over the first quarter of 1960; paper exports gained 16.7 per cent, and paperboard foreign sales rose 33.2 per cent above the 1960 mark."

"In view of increasing demand due to the economic vitality in many areas of the world, the favorable trend for expanded exports is expected to continue not alone in 1961, but in the years ahead."

sumption demand for pulp, paper, and paperboard, as related to industrial expansion, is, therefore, expected to increase in proportion, thus auguring well for continued expansion of U.S. pulp, paper, and paperboard exports to this market.

U.S. first quarter 1961 exports to the United Kingdom, which is a member of the European Free Trade Association (EFTA), rose above those in 1960, especially linerboard and pulp. EFTA, Europe's other trading bloc, consists of seven countries: Austria, Denmark, Norway, Portugal, Sweden, Switzerland, and the United Kingdom. Agreements regarding Finland's affiliation with the seven countries were recently concluded. Under the terms of this agreement, the tariff reductions effected among the member nations will be extended to Finland.

Both the EEC and EFTA are progressively reducing tariff barriers in their trading areas. In the case of the EEC, the member countries have a common external tariff. However, in the EFTA countries, each individual member maintains its own external tariff. Because the primary pulp, paper, and paperboard competitors with the United States for world markets are Canada, Sweden, and Finland, U.S. exporters obviously face the same tariff treatment as these competitors in the EEC countries; but, in the case of EFTA, particularly in the United Kingdom, the lower EFTA tariffs to Sweden and Finland, and the British preferential treatment to Canada, places the United States at a disadvantage.

Because the traditional duty-free treatment of pulp imports into the U.K., regardless of origin, will be continued, the EFTA raises no direct problem with respect to U.S. pulp exports, but the competitive situation for U.S. paper and paperboard exports will become progressively worse in view of accelerated tariff reduction among the EFTA members. This is illustrated by U.S linerboard exports to the United Kingdom, which in the first quarter of 1961 amounted to more than 41 thousand tons, accounting for nearly 40 per cent of total linerboard exports. The United States, being the United Kingdom's largest supplier of linerboard, through its negotiators at the present General Agreement on Tariffs and Trade meetings in Geneva, will strive toward a satisfactory solution in behalf of the U.S. paper and paperboard industry, so that U.S. exporters may compete on as equal a basis as possible with other exporting countries.

Market Expansion and Diversification

Facing a rapidly changing world market pattern, the U.S. pulp, paper, and paperboard industry has stepped up its foreign market research activities to assess present and future consumption requirements of pulp, paper, and board as related to significant industrial and cultural developments in individual countries.

Aiming toward export expansion and toward wide diversification of markets and products, the industry is taking increasing interest in the exploration of markets where U.S. pulp, paper, and paperboard consumption has until now represented only a small proportion of global imports. Diversification of products and markets is being viewed as invaluable protection against vulnerability of the industry's overall export operations, especially when the bulk of exports is concentrated in one or a few products and sold to a limited number of countries. The industry's effort in this direction will undoubtedly bring rewarding results in terms of wider and expanded markets for U.S. pulp, paper, and paperboard sales.

Outlook for Exports

The high quality standards of a wide variety of products, backed up by adequate production capacity and abundance of resources, places the U.S. pulp, paper, and paperboard industry in front line position as a dependable supplier in the world market. In view of increasing demand for pulp, paper, and paperboard, chiefly reflected by the economic vitality in many areas of the world, the favorable trend for expanded U.S. pulp, paper, and paperboard exports is expected to continue not alone in 1961, but in the years ahead.

Other favorable aspects, such as increasing availability of hard currency in the world markets, global trends toward liberalization of import restrictions, the new U.S. export financing and guarantee program, and the change in ICA-financed procurement policy, all offer new and greater opportunities to U.S. exporters and will substantially benefit the industry's all-out export expansion program.

From the "Pulp, Paper and Board Industry Report" of the U.S. Dept. of Commerce, June, 1961.

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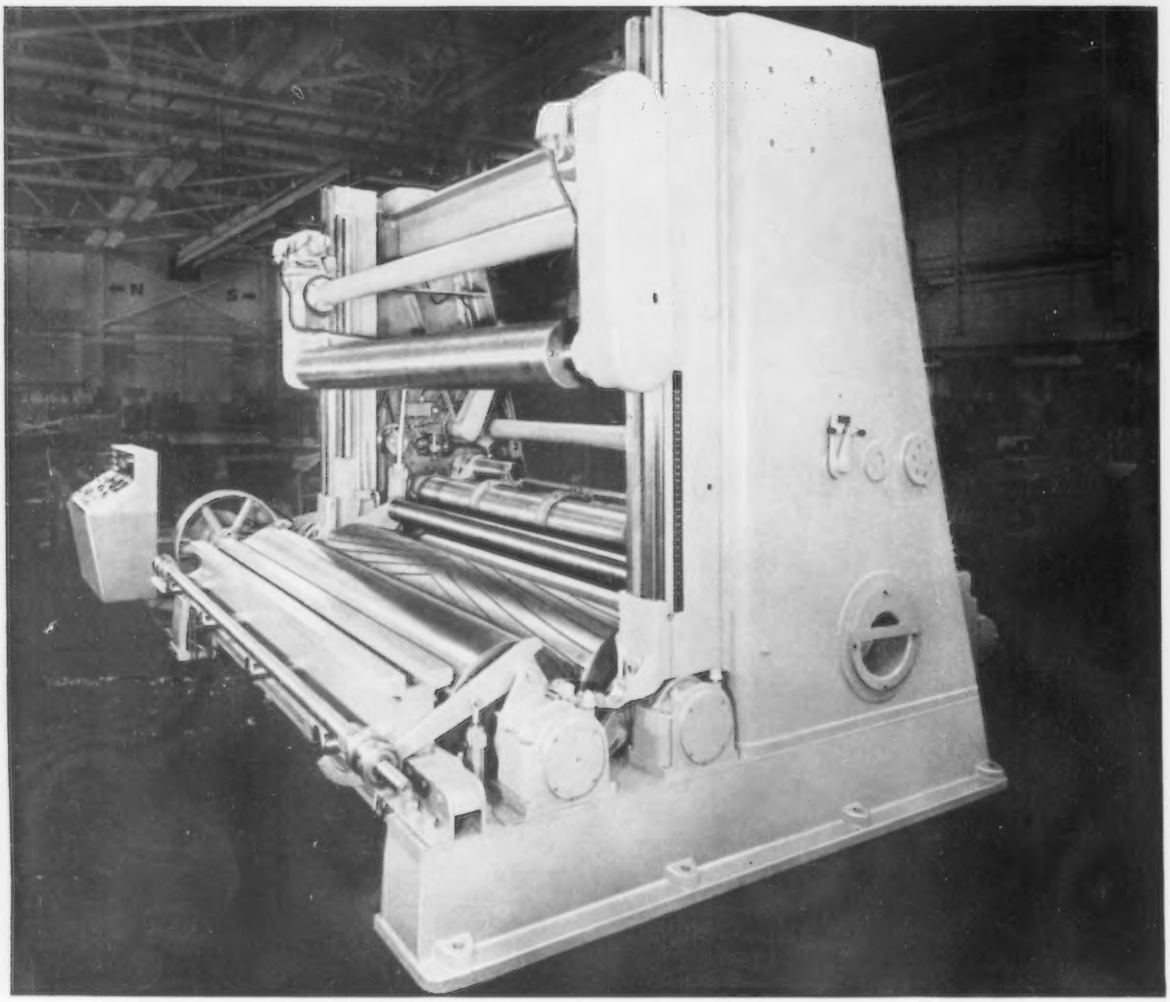

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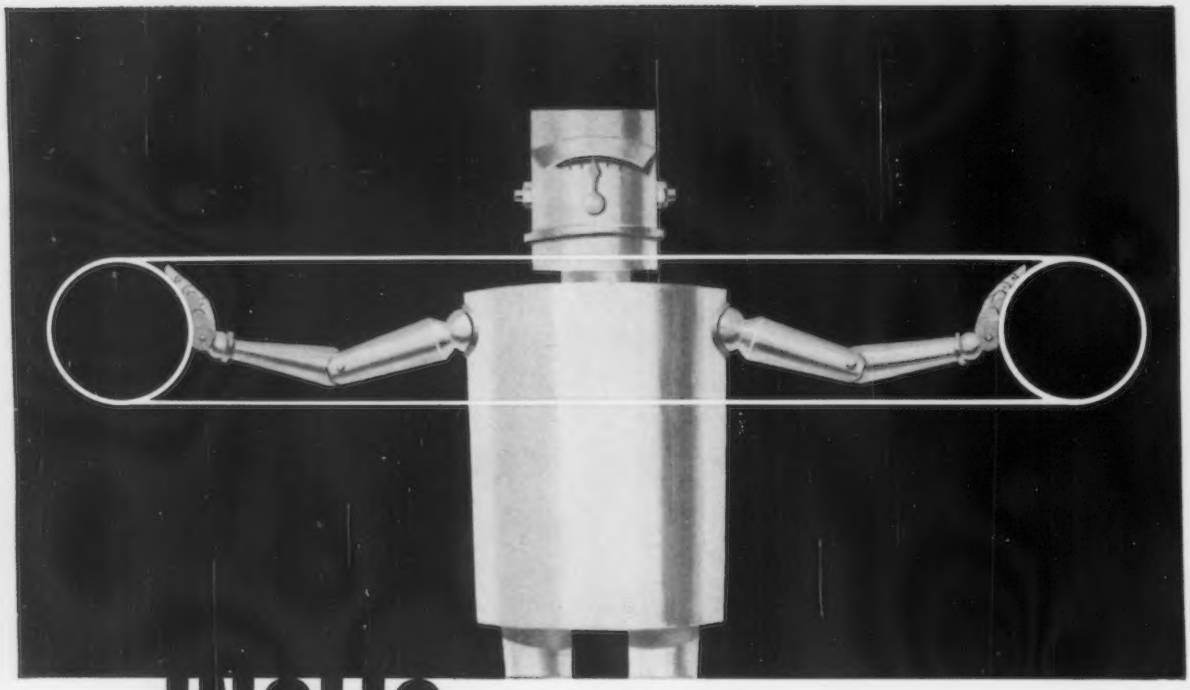

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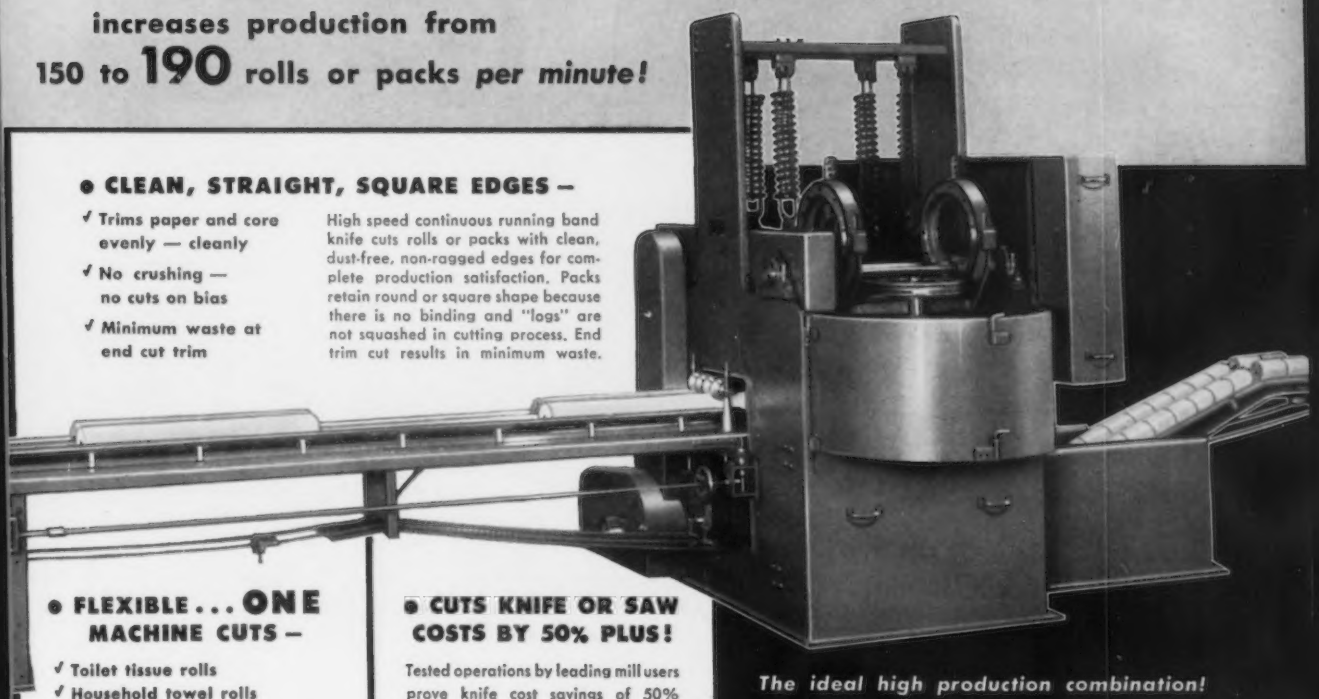

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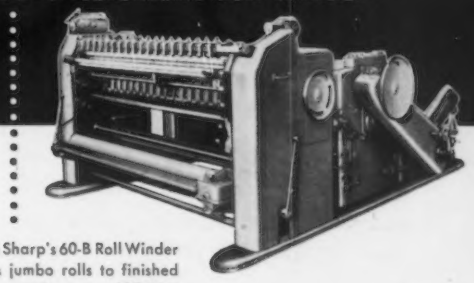
The ideal high production combination!

H-S Paper Roll and Package Cutter and 60-B Automatic Roll Winder



Hudson Sharp's 60-B Roll Winder reduces jumbo rolls to finished rolls at speeds up to 1200 FPM — *with new, positive, "CLEAN-CUT" sheet perforations.* Handles web widths to 93". Automatic, progressive winding plus finished roll stripping and the most accurate sheet or measured roll count are just some of the standard features. Automatic core loading attachment available. Elimination of slitters for use with log cutter speeds output reduces web breakage and minimizes downtime. Get the complete facts, now!

New mechanical innovations have increased roll and package production from *150 to 190 per minute!* . . . A highly important factor in today's automation production. Two lanes of products are fed, cut and delivered simultaneously — in length cuts of 4" to 12" in ½" increments — log diameters of 4" to 5½". Can be used independently or in-line with automatic roll winders. Heavy-duty construction and counter-balanced rotary and eccentric motion provide smooth, dependable, trouble-free operation. Write today.

Putting Ideas to Work

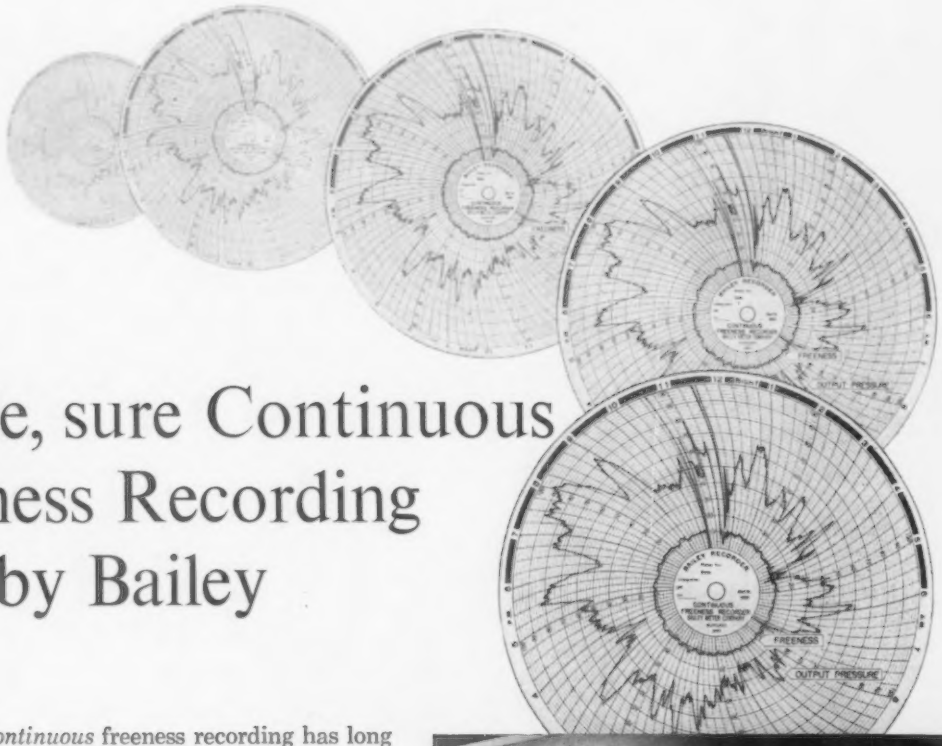
FOOD MACHINERY AND CHEMICAL CORPORATION

FMC Packaging Machinery Division

Hudson-Sharp Machine Company

1201 MAIN STREET, GREEN BAY, WISCONSIN

Now...proved in continuous operation...



simple, sure Continuous Freeness Recording by Bailey

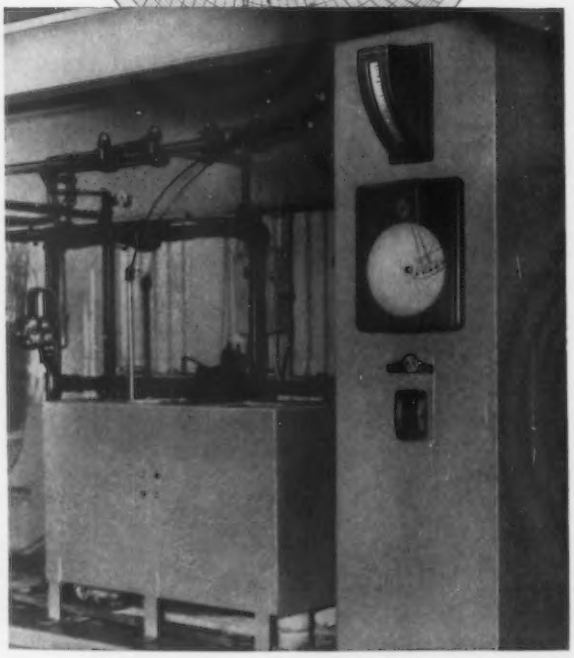
Dependable, *continuous* freeness recording has long been an objective of the pulp and paper industry.

Today it is a fact.

The Bailey Continuous Freeness Recorder, based on simple principles and utilizing equipment well-known by the pulp and paper industry, now provides a means for dependable, continuous measurement of freeness, proved in successful, continuing service for more than a year.

Its operation enables more accurate control of pulp stock characteristics...automatic control of refiners and jordans for sustained product quality. Performance is trouble-free . . . maintenance, negligible. Your Bailey Engineer will be glad to give you details. Call your nearest Bailey District Office, or write.

P151-1



Bailey Continuous Freeness Recorder in operation at a Southern newsprint plant.

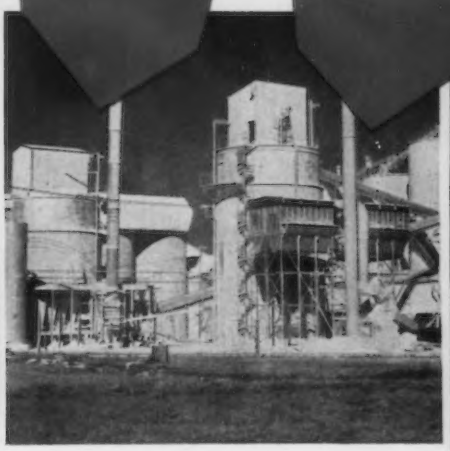
PULP AND PAPER DIVISION

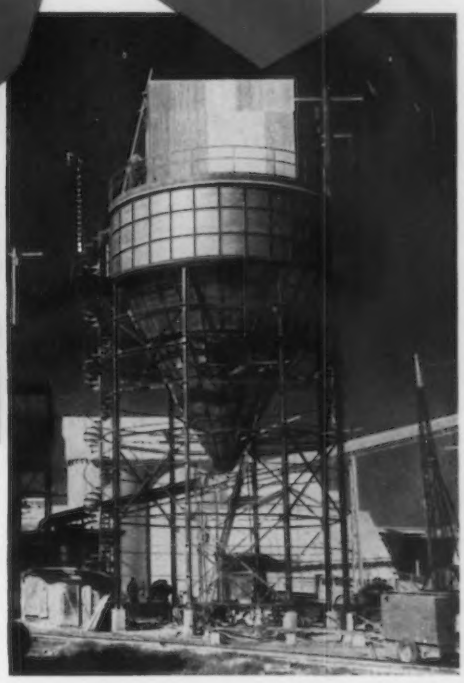
BAILEY METER COMPANY

1056 IVANHOE ROAD • CLEVELAND 10, OHIO

In Canada — Bailey Meter Company Limited, Montreal

1 2 3 now 4!





SPRAY DRYERS

. . . for the **best** in paper coating clays

First to spray-dry paper coating clays, MINERALS & CHEMICALS PHILIPP now provides twice the number of spray-drying units of any other coating clay producer.

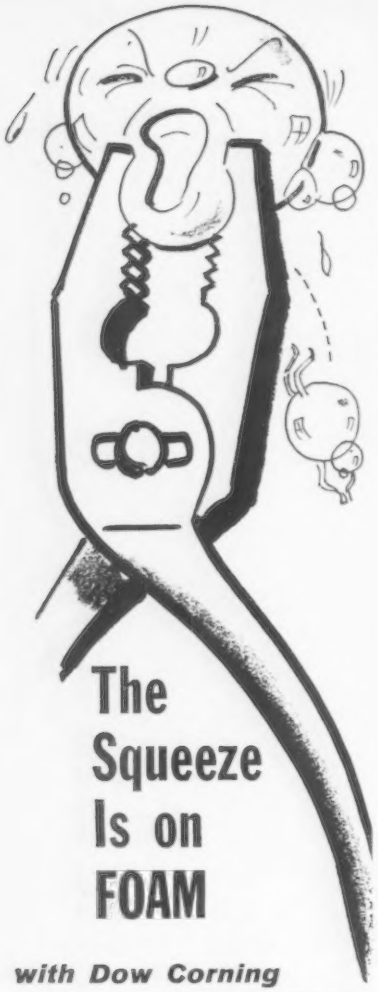
This is the most precise method used today for drying paper coating clays. Drying is instantaneous, forms microspheroids of clay with a controlled moisture content that can be set as low as ½ of one percent. All four MCP spray dryers are completely instrumented. To the paper maker this means pure, quality-controlled clays of high bulk density, excellent handling properties, and ease of dispersion and make-down. MCP's fourth spray-drying unit offers even greater flexibility to provide a broad range of coating clays to meet individual customer needs.

We will be glad to show you what MCP Edgar spray-dried paper coating clays can do for your products. Write, or give us a call.

Edgar

EDGAR PAPER CLAYS from

MINERALS & CHEMICALS PHILIPP
CORPORATION
2232 ESSEX TURNPIKE, MENLO PARK, N.J.



The Squeeze Is on FOAM

*with Dow Corning Silicone Defoamers**

There's a *right* tool for every job. In foam control it's Dow Corning silicone antifoamers or defoamers . . . job-proved thousands of times over as the most efficient, most economical, and most versatile foam suppressors available.

*At prescribed levels, are sanctioned by FDA

FREE SAMPLE
and new manual on foam control

first in silicones
Dow Corning CORPORATION
MIDLAND, MICHIGAN
Dept. 9418

Please rush a FREE SAMPLE of a Dow Corning silicone defoamer for my product or process, which is (indicate if food, aqueous, oil or other): _____

NAME _____

POSITION _____

COMPANY _____

ADDRESS _____

Prices of Fibers

MARKET WOOD PULP

SECOND QUARTER CONTRACT PRICES PER SHORT AIR-DRY TON

Delivered Basis

	U.S.	Canadian	Swedish	Finnish	Norwegian
Groundwood	$82.50/ 90.00	$82.50/ 90.00	$90.00/ —	$90.00/ —	$90.00/ —
Bleached Gw'd.	97.50/100.00	97.50/100.00			
Kraft, Blchd.	‡140.00/150.00	‡140.00/150.00	150.00/ —	150.00/ —	150.00/ —
Kraft, Blchd. Hdwd.	135.00/140.00		140.00/ —		
Kraft, Semi-bleached	130.00/140.00				
Kraft, Unbl.	117.50/125.00	125.00/ —	125.00/130.00	125.00/ —	
Sulphite, Blchd.	‡135.00/140.00	‡135.00/140.00	140.00/ —	140.00/ —	140.00/ —
Sulphite, Bl. Hdwd.	135.00/ —				
Sulphite, Unblchd.	125.00/ —	125.00/ —	125.00/ —	125.00/ —	125.00/ —
Sulphite, Unb'l. Gl'sn.		140.00/ —	134.00/ —		
Soda, Blchd.	130.00/135.00	130.00/135.00			

‡ Depending on Brightness.

COTTON LINTERS

F.O.B. OIL MILLS PER CWT
WEEK ENDED JUNE 6

	Atlanta	Memphis	Dallas	Los Angeles
Grade 1	n.a.	n.a.	n.a.	n.a.
2	n.a.	n.a.	n.a.	7.50/7.00
3	$7.50/7.00	$7.50/7.25	$7.50/7.00	6.75/6.50
4	7.00/6.25	6.50/6.25	6.50/6.25	6.00/5.75
5	6.25/5.75	6.00/5.75	6.00/5.50	5.25/4.75
6	5.75/4.75	5.50/5.25	5.25/5.00	4.50/4.25
7	4.75/4.25	4.75/4.50	4.75/4.00	n.a.

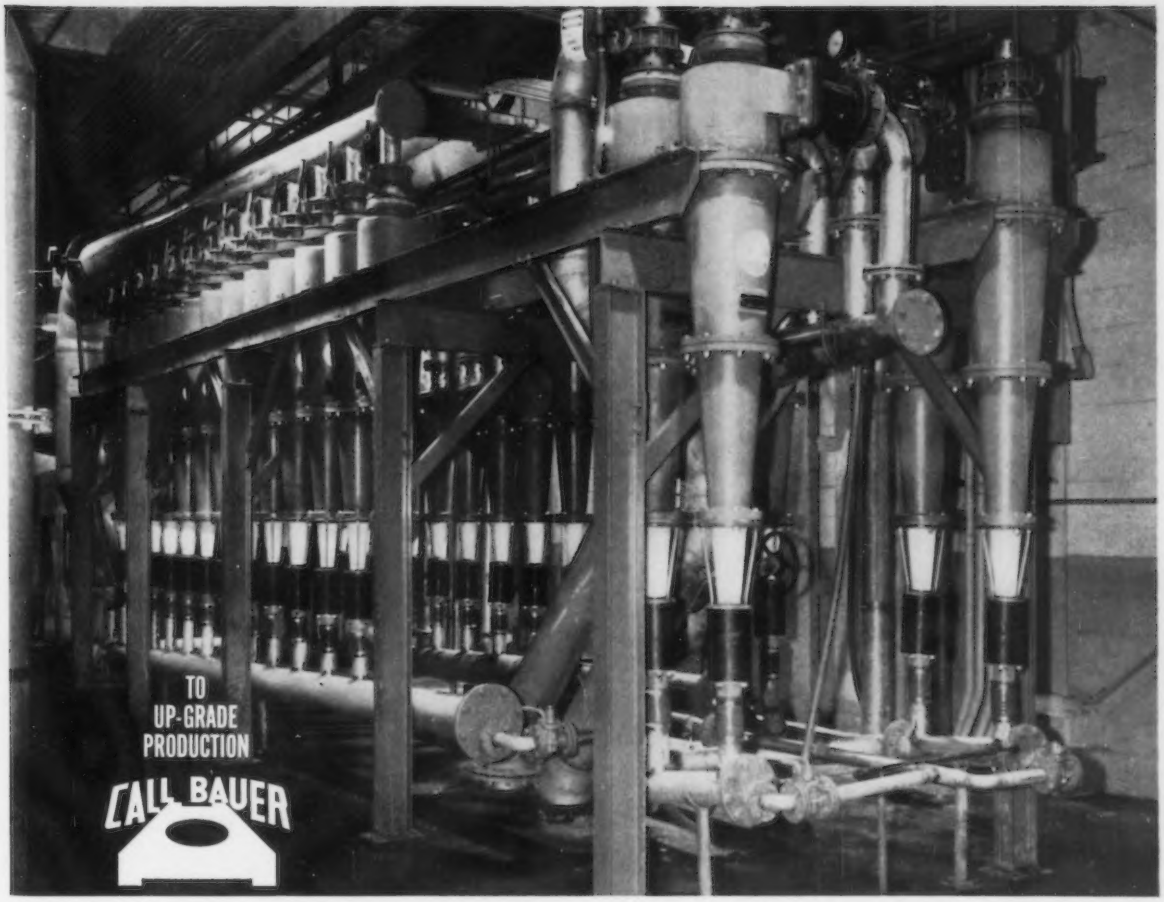
WASTE PAPER MARKET

Mill Prices, f.o.b. Trucks Shipping Point — Includes Brokerage

These quotations are a partial indication of the price range on volume tonnage in each market on the date specified, as gathered from major dealers and brokers. SPECIAL PACKINGS AND SPOT TONNAGE NOT INCLUDED. Prices nominal.

	New York June 12	Boston June 12	Chicago June	Los Angeles June
No. 1 Mixed Paper	$ 7.00/ 9.00	4.00/ 7.00	6.00/ —	12.00/ —
No. 1 News	12.00/ 13.00	11.00/ —	11.00/ —	16.00/ —
Overissue News (Lg. size)	11.00/ 13.00	9.00/ 11.00	16.00/ —	18.00/ —
Mill Wrappers	19.00/ 22.00	9.00/ 11.00	9.00/ —	13.00/ —
Old Corrugated Containers	17.00/ 18.00	18.50/19.00	18.00/ —	16.00/ —
Super Resorted Kraft Paper	35.00/ 40.00	— / —	28.00/ —	50.00/ —
New Double Kr. Ld. Corr. Cuts	27.50/ 30.00	30.00/ 32.50	30.00/ —	27.50/ —
(Semi-chem. medium)	45.00/ —	42.50/ —	42.50/ —	— / —
New 100% Kraft Corr. Cuts	40.00/ 42.50	— / —	52.50/ —	— / —
New Br. Kraft, Env. Cuts	65.00/ 70.00	65.00/ 70.00	47.50/ —	45.00/ —
New Br. Kr. Bag Waste Prntd.	50.00/ 55.00	50.00/ 60.00	47.50/ —	37.00/ —
New Br. Kr. Bag Waste Unprintd.	55.00/ 60.00	60.00/ 65.00	55.00/ —	45.00/ —
No. 1 Groundwood Shvs.	25.00/ 30.00	20.00/ 25.00	10.00/ —	27.50/ 30.00
White Newsblanks	42.50/ 45.00	35.00/ 40.00	30.00/ —	55.00/ —
No. 1 Soft White Shvs.	55.00/ 60.00	55.00/ 60.00	50.00/ —	75.00/ —
Super Soft White Shvs.	65.00/ 75.00	70.00/ 80.00	60.00/ —	— / —
Hd. White Shvs.	75.00/ 80.00	80.00/ 90.00	75.00/ —	80.00/ —
Hd. White Env. Cuts	90.00/ 95.00	100.00/105.00	80.00/ —	103.00/ —
Col. Tab. Cards	40.00/ 42.50	40.00/ 42.50	40.00/ —	35.00/ —
Manila Tab. Cards	57.50/ 60.00	55.00/ 60.00	60.00/ —	65.00/ —
No. 1 Col. Ledger	32.50/ 35.00	30.00/ 35.00	35.00/ —	18.00/ —
White Ledger	45.00/ 50.00	42.00/ 47.00	45.00/ —	40.00/ —
Mixed Book & Mag.†	— / —	— / —	8.00/ —	— / —
No. 1 Books‡	15.00/ 17.50	18.00/ 22.00	22.50/ —	8.00/ —

† Includes Time & Life; no coarse groundwood. ‡ Not to exceed 10% of groundwood.



Battery of Bauer No. 623 Centri-Cleaners on No. 4 machine at St. Croix Paper Company. Note long lasting ceramic lower cone nozzles and vacuum rejects-separator system which reduces wear on cleaners in the second and third stages of this modern installation.

Bauer Centri-Cleaners Improve Quality, Reduce Downtime at St. Croix

St. Croix Paper Company, Woodland, Maine, produces 500 tons of newsprint per day from pulp cleaned 100% with Bauer Centri-Cleaners.

Since all machines have been equipped with these cleaners, mill management reports a profitable improvement in sheet quality. The paper runs better, prints better and sells better. Wire and felt life have been improved, also.

If you want to up-grade quality in your mill, talk it over with your local Bauer man. He can recommend the exact cleaner for your needs. Send for bulletin P-4.

Continuous or rapid cycle cooking and impregnation... DIGESTERS	Liquor removal... PRESSAFINERS	Improved fiberizing of chips, higher machine speeds... DOUBLE REVOLVING DISC REFINERS	Final stock preparation ..PUMP THROUGH REFINERS	Cleaner stock... CENTRI-CLEANERS	Automated high yield systems ...BAUERITE

THE BAUER BROS. CO.

Springfield, Ohio

IN CANADA: THE BAUER BROS. CO. (CANADA) LTD.
Brantford, Ontario

HERE IT IS!

Your Invitation To...

"A practical monograph covering design and operation of fourdrinier paper machines from stuff box to couch"

Written with the young operating engineers and technicians in mind, this book has great value to experienced practical papermakers as well. Five vital chapters cover . . . Stock and White Water Systems . . . Headboxes and Slices . . . The Auxiliary Components . . . Troubleshooting . . . Curing Paper Defects at the Wet End . . . It will be to your advantage to accept our invitation immediately. We have already had an unusual number of requests for the book even before publication was announced.

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accurac* 24

Retention Aid

the finest retention aid on the market today†

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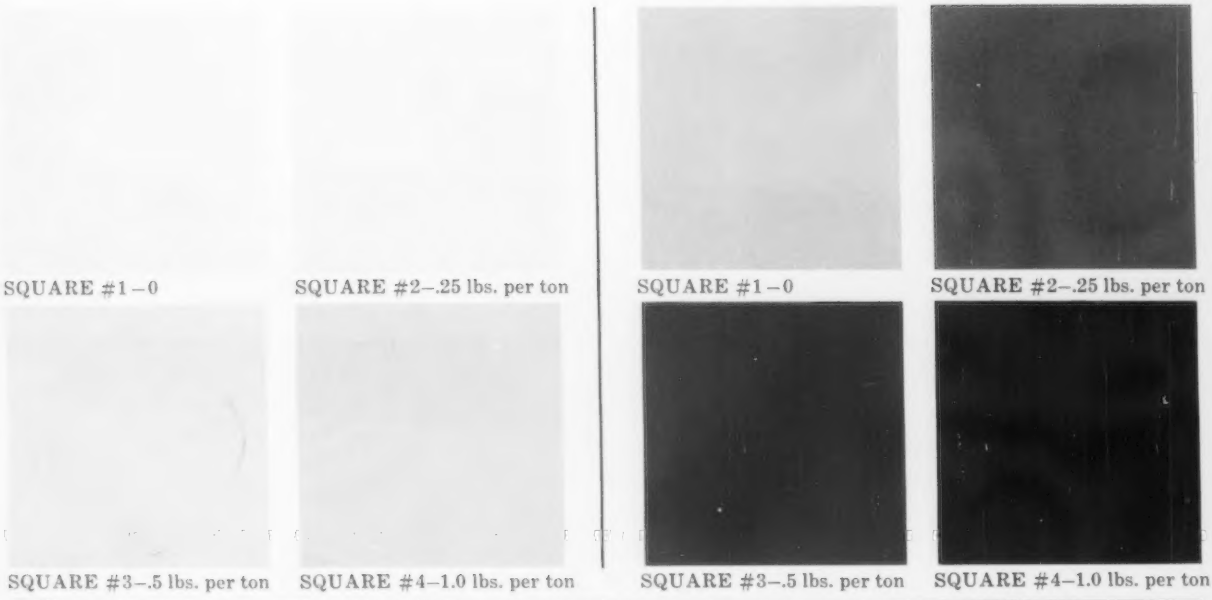
here's visual proof of pigment-saving

accurac* 24

Retention Aid



SQUARE #1–0 | SQUARE #2–.25 lbs. per ton | SQUARE #1–0 | SQUARE #2–.25 lbs. per ton

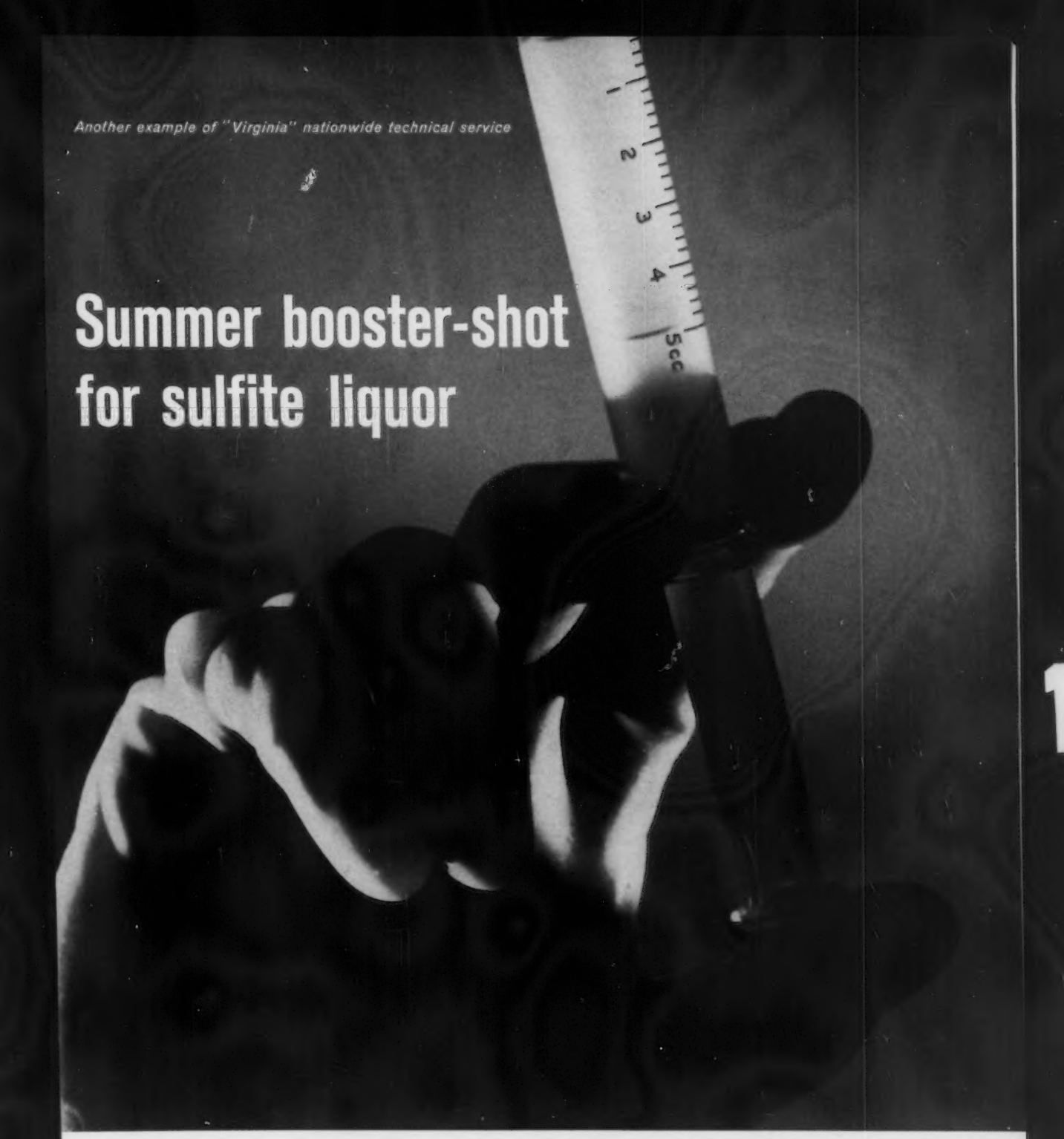
SQUARE #3–.5 lbs. per ton | SQUARE #4–1.0 lbs. per ton | SQUARE #3–.5 lbs. per ton | SQUARE #4–1.0 lbs. per ton

Each block contains equal amounts of blue or yellow pigment. The ACCURAC 24 content varies from zero to 1.0 pounds per ton of paper as indicated. Color specifications may be maintained by adding ACCURAC 24 in appropriate amounts while reducing the amount of pigment added to the stock. Or, additions of ACCURAC 24 to a given amount of pigment will intensify the final color.

Note the advantages of ACCURAC 24! Aids retention of fillers and costly pigments such as TiO_2 and colored pigments. Same color specifications with less pigment added. Retention of fines for improved formation of the sheet. Less fines in white water. Less load on save-alls. Less 2-sidedness in colored paper. Faster machine drainage. ACCURAC 24 is being successfully used in the paper industry to improve the retention of fines and pigments. For full information, send for Cyanamid's data sheet on ACCURAC 24.

CYANAMID

AMERICAN CYANAMID COMPANY • PAPER CHEMICALS DEPARTMENT, 30 Rockefeller Plaza, New York 20, N.Y.



Another example of "Virginia" nationwide technical service

Summer booster-shot for sulfite liquor

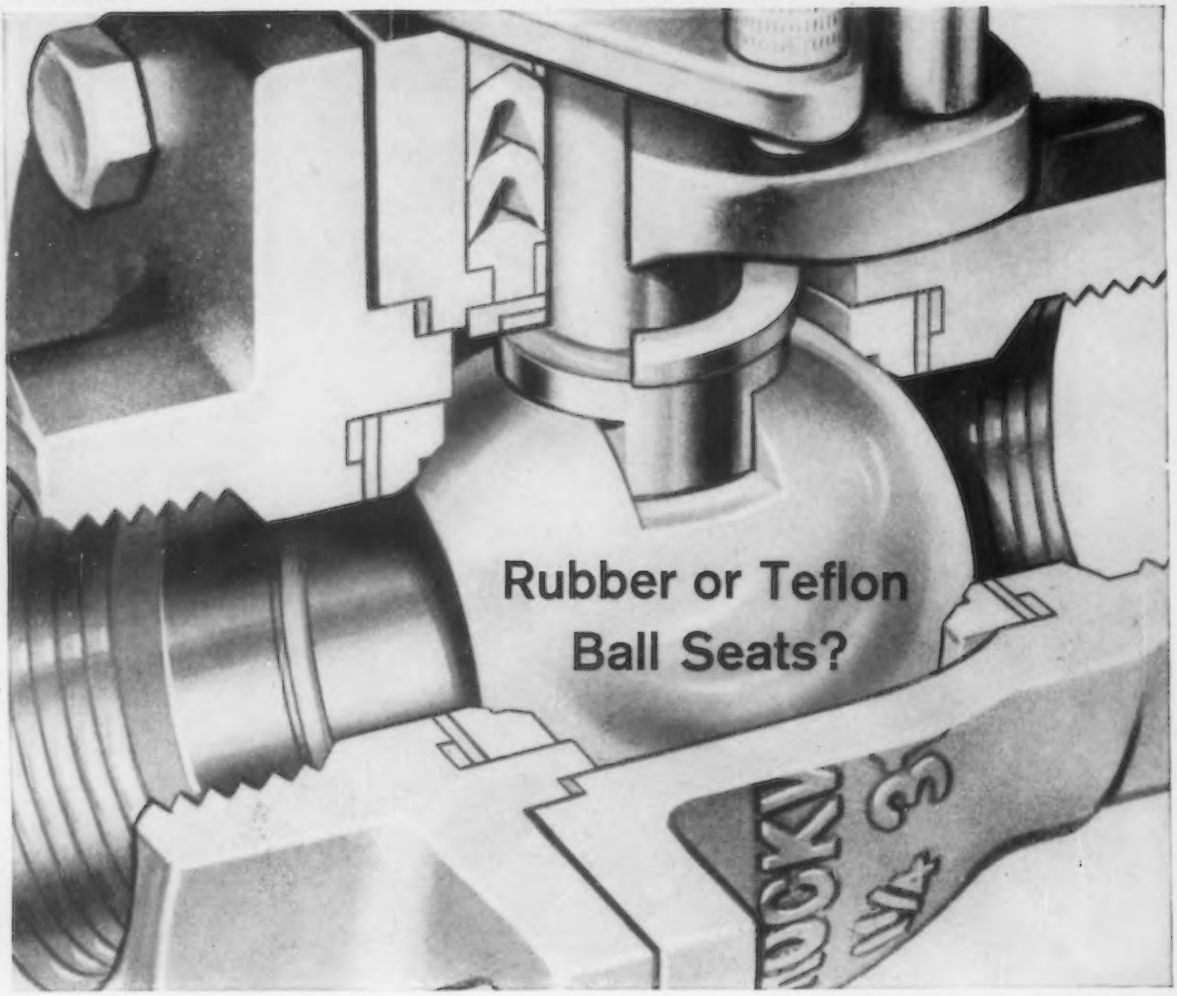
A pulp mill was plagued year after year by an efficiency loss of about 30% in the sulfite acid-making plant caused by summer-warmed water. As a result, both pulping capacity and pulp quality dropped off. The mill people decided to try refortifying their sulfite cooking acid and ordered a tank car of Virginia SO_2 (99.9% pure). We sent a technical service man along. He found best results were obtained by adding liquid SO_2 to the sulfite acid storage tank through an open stainless steel pipe. Strength of the cooking acid was quickly raised to the required 6.5% level. Pleased with the results of this summer-time emergency treatment, the mill took a hard look at year-round variations in acid strength and pulp quality—now plans a permanent installation that will permit efficient use of liquid SO_2 as needed throughout the year. This will assure constant-strength sulfite liquor, a higher yield from the digesters, and a better end product. If your sulfite liquor needs a summer booster shot, write Chemical Division, VIRGINIA CHEMICALS & SMELTING COMPANY, Dept. 219, West Norfolk, Va.

VIRGINIA Chemicals

Field Offices: New York • Boston • Chicago • Atlanta
Asheville • Philadelphia • Akron • Seattle • Memphis

Available in Canada and many other countries

TAKE A CLOSE LOOK AT ROCKWOOD BALL VALVES



Rubber outperforms any other material in ball valve seats. It seals tighter, lasts longer because it is tough, resilient and resists abrasion. Teflon is used when *corrosion resistance* and *high temperatures* are prime factors.

Whether with Teflon or rubber seats, all Rockwood valves are durably built to last longer — and stay sealed through *all* pressure and flow changes — in liquids, gases or solids.

And only Rockwood valves have *all* these important features.

Larger Waterway Diameter for smoother flow, less pressure loss.

Truly Spring-loaded Ball Seats — compensate for wear, pressure variations, physical changes and temperature effects.

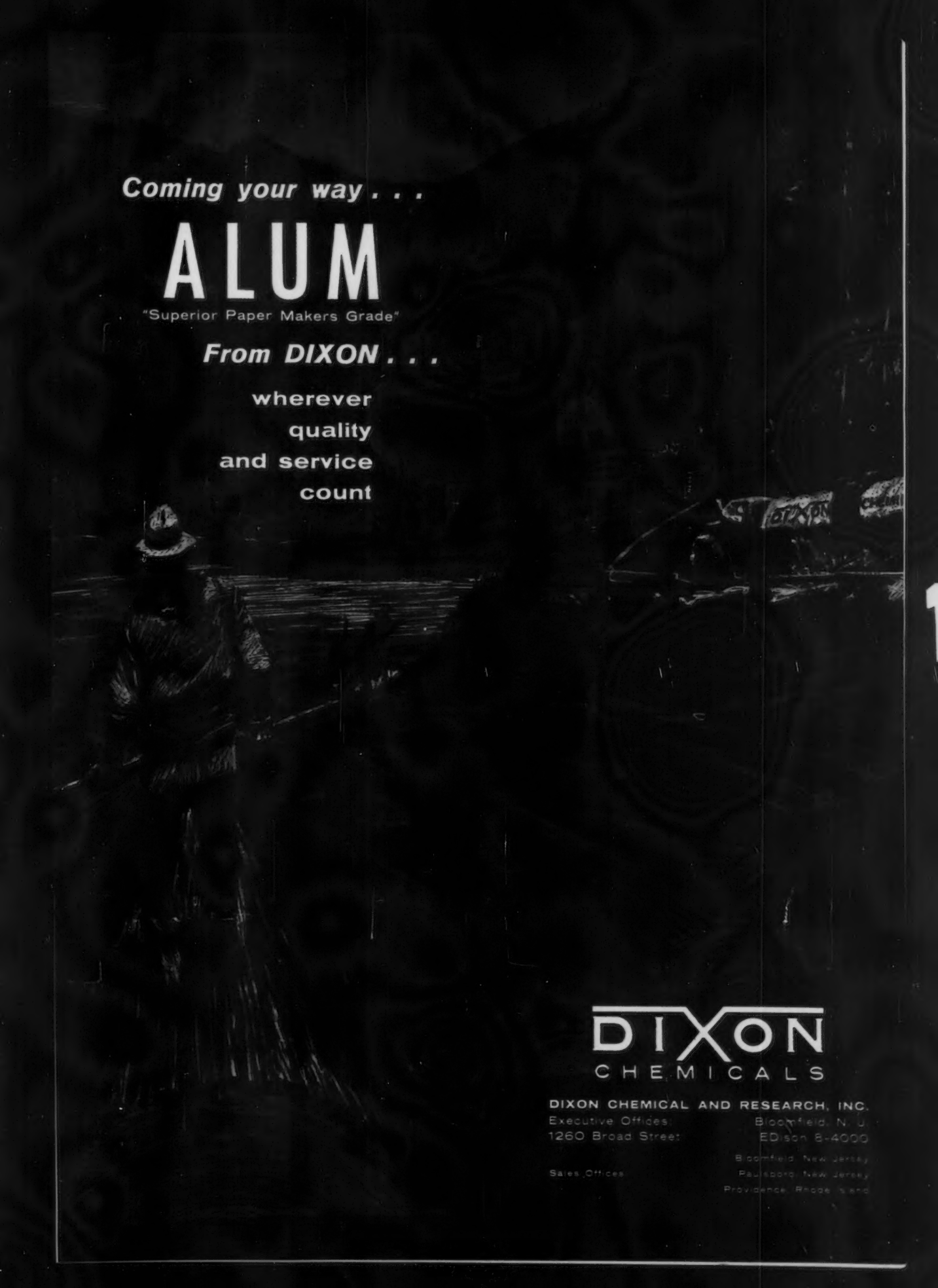
Ease of Maintenance — no lubrication, most parts are replaceable using ordinary tools.

Reliability — Rockwood pioneered ball valve manufacture and Rockwood valves are still the standard of quality and dependability.

Contact your Rockwood man and get the full details of his complete line of ball valve types and sizes. Write Rockwood Sprinkler Company, Ball Valve Department, 1006 Harlow Street, Worcester 5, Mass. Distributors in all principal industrial areas. Rockwood Sprinkler Company, A Division of The Gamewell Company, A Subsidiary of E. W. Bliss Company.

ROCKWOOD

BALL VALVES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and service
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What eliminates the problem of paper slippage?

What takes less material than less effective methods?

What saves packaging time?

ANSWER...

Compression Strapping the Signode Way

The Signode way has four parts

1. 20,000 pounds of compression

2. A Signode developed strapping pattern that gives maximum security, yet probably takes less strap than you are now using.

3. A Signode developed skid top that is different from others in several important details. Adds no cost.

4. Strapping station procedures and arrangements worked out with your people, that further reduce your costs by effecting important savings in wrapping and strapping time.

Besides eliminating damage to your paper caused by slippage, and saving you materials and man-hours, the Signode way lets you save much valuable floor space. You can stack paper skids three or four high, yet the straps on the bottom skids stay tight, thanks to 20,000 pounds of compression.

Inseparable from the method is the Signode equipment that has been developed for this method, but the virtues of this dependable equipment must be, for present purposes, another story.

Your customers benefit as much as you do, but in different ways

- They receive more usable paper per skid—it's all usable instead of some of it or most of it. No waste of top or bottom sheets because of wrinkles, ragged edges, or cleat marks.

- They use the paper as it comes off the skid. No restacking. And 20,000 pounds of compression helps greatly in stabilizing moisture content.

The Signode way is proved effective. Hundreds of tests have been made by Signode

- Here are two snapshots from one of scores of reports made to our customers. We will concede that our engineers are better at testing than at photography, but we hope you can see the slippage after impact in the skid strapped the usual way—six straps and no compression—and the absence of slippage in the skid strapped the Signode way with 20,000 pounds of compression.

- Here is a chart that summarizes the results of hundreds of tests. It shows why Signode says that, at worst, paper slippage is reduced to such an inconsequential amount that it is no longer a problem. In most shipments, there isn't any slippage.

No compression	▬▬▬▬	Slippage 1-1/4" (40/32")
10,000 lbs. compression	▬▬	13/32"
20,000 lbs. compression	▪	Slippage 3/32"

On what do we bias our opinion?

Forty years of working with the paper industry. Persistent development work. Continuous improvement in packaging and carloading methods. A well-equipped laboratory. Long-term field engineering (at our expense). And the full scale Signode railroad test track...with inclined track and instrumented and photographic recording equipment. (Worth seeing!) And the experience of a growing list of users of this comparatively new compression strapping method.

A see-it-yourself program

Signode is now extending to paper mill people a see-it-yourself program that includes putting your paper on your skids through extensive tests in your presence. This takes some arranging and scheduling. We hope you are interested and will write to us for full details. Please address Department P.

SIGNODE

First in steel strapping

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STEEL STRAPPING CO.
2277 **N. Western Avenue • Chicago 47, Illinois**
Offices Coast to Coast, Foreign Subsidiaries and Distributors World-Wide
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from DeZurik... A GREAT NEW

COMPACT PIPELINE CONSISTENCY REGULATOR

REFLECTING 36 YEARS OF DeZURIK EXPERIENCE AND LEADERSHIP IN CONSISTENCY REGULATION

There's a great pedigree behind this notable new Pipeline Regulator. It bears the reputation and reflects the know-how established by the many thousand DeZurik Regulators in successful service around the world.

This new Pipeline Regulator is remarkably compact without sacrificing one fraction of DeZurik's excellence and competence. It installs right in line on the line, requires virtually no extra space, needs no extra supports. Installation is easy, quick, trim, economical.

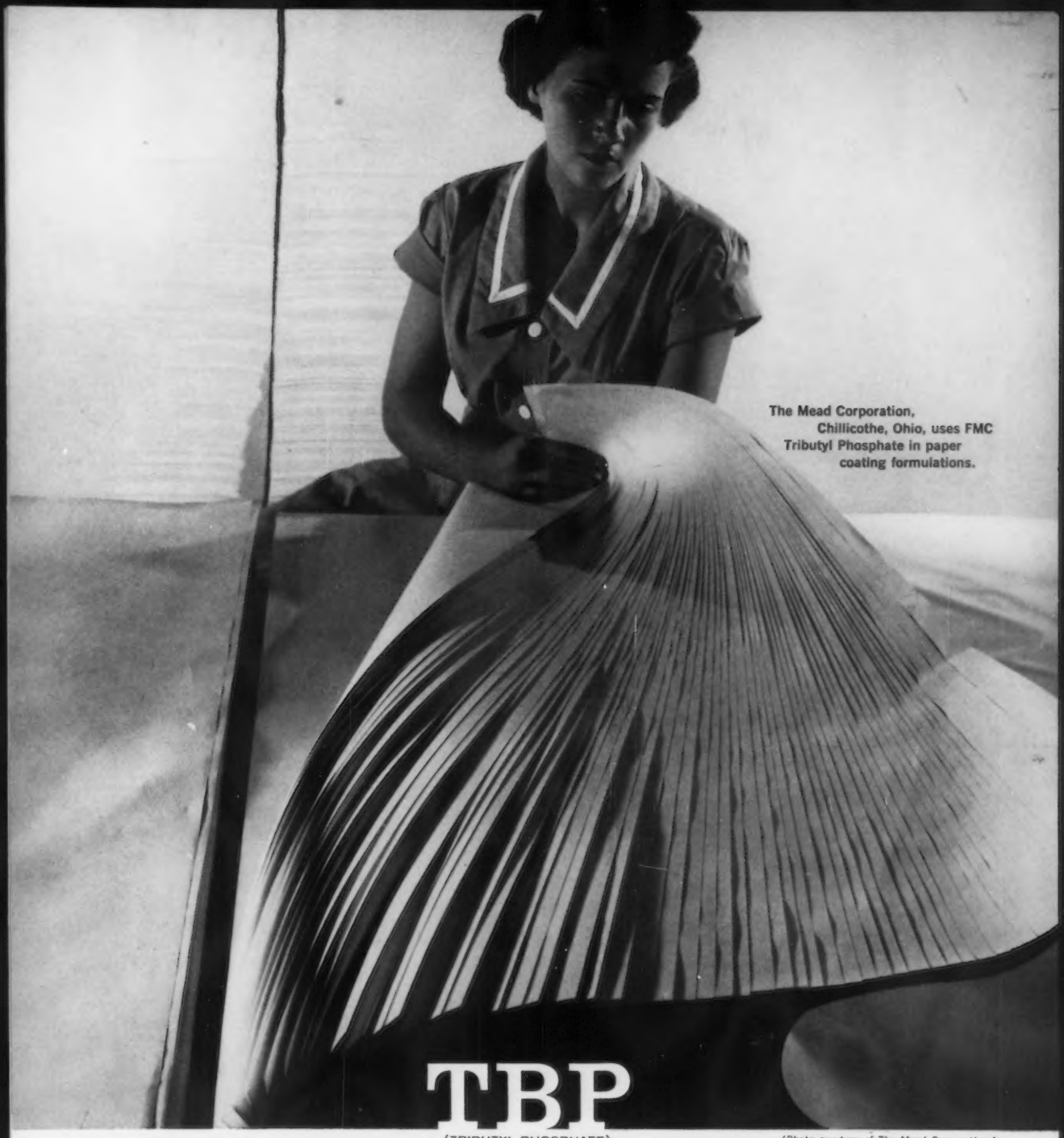
THIS IS THE ONE COMPACT REGULATOR THAT OFFERS ALL THE ADVANTAGES OF DeZURIK'S MOTOR-DRIVEN SENSING ELEMENT!

Through millions of hours of use, the DeZurik rotating sensor has clearly demonstrated its freedom from fouling and from stock hang-up. Even the stringiest stock is controlled accurately without the plug-ups occurring on stationary feelers. No shutdowns, practically no maintenance.

DeZURIK'S FAMED ACCURACY AND SENSITIVITY are guaranteed in this compact unit. It will positively hold consistency within plus-or-minus .1%; its proved performance is closer to a variation of ONLY .02%!

The DeZurik Compact Pipeline Regulator is a COMPLETE regulator, with the finest recorder-controller instrumentation, adaptable readily to your specific requirements. Full data and costs on request.

DeZURIK CORPORATION
SARTELL, MINNESOTA
Since 1925—A Partner Of The Paper Industry



The Mead Corporation, Chillicothe, Ohio, uses FMC Tributyl Phosphate in paper coating formulations.

TBP

(TRIBUTYL PHOSPHATE)

(Photo courtesy of The Mead Corporation.)

defoamer prevents paper defects

Defects in paper surfaces can often be traced to foaming of the coating mixture. Foam can carry dirt and grime onto the paper . . . cause specks and dry spots at the roller . . . produce pitting . . . form light spots in colored stock.

FMC's Tributyl Phosphate used as a defoamer in coating mixtures effectively and economically prevents such blemishes. TBP promotes uniformity in appearance and strength . . . leaves no odors or other noticeable residues.

For technical data and price information on Tributyl Phosphate, write to:

Putting Ideas to Work

FOOD MACHINERY AND CHEMICAL CORPORATION

Chemicals and Plastics Division

161 East 42nd Street, New York 17, N. Y., Telephone: MU 7-7400

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IMPROVED PRODUCTS
REDUCED COSTS
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The BROUGHTON REMOTE CONTROLLED UNIT VACUUM SYSTEM is one of many systems designed and produced by A. E. BROUGHTON & CO. to help your mill meet the increasing demands of future business.

This REMOTE CONTROLLED SYSTEM guarantees the holding of an accurate vacuum on each individual flat box. Vacuums can be regulated from a fraction of an inch on up—and maintained in increasing or decreasing stages.

RESULTS? More water may be worked into the sheet, less two-sideness, a more uniform watermark and, in most cases, elimination of the flat box vacuum pump!

Write or phone collect for complete information—today!

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PUGET PULP *
will strengthen your competitive position

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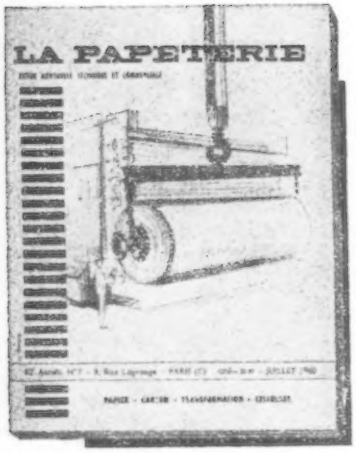
* A SOFTWOOD, CHLORINE DIOXIDE BLEACHED SULPHITE PULP



je suis La Papeterie

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* To be exact 526 papermakers from more than 200 mills have attended Huyck Felt Workshops! Over 70% have come from companies sending additional representatives year after year — seasoned papermakers responsible for felt operation in mills throughout the industry.

P.S. Huyck's 1961 Workshops are fully enrolled.
Ask your Huyck Man about 1962.

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This outstanding Perkins development is furnished in either tapered lock-up or threaded lock-up construction.

Roll shown is finished to 24" diameter by 175" face. New Perkins equipment makes possible rolls of 30" diameter and up to 200" face.

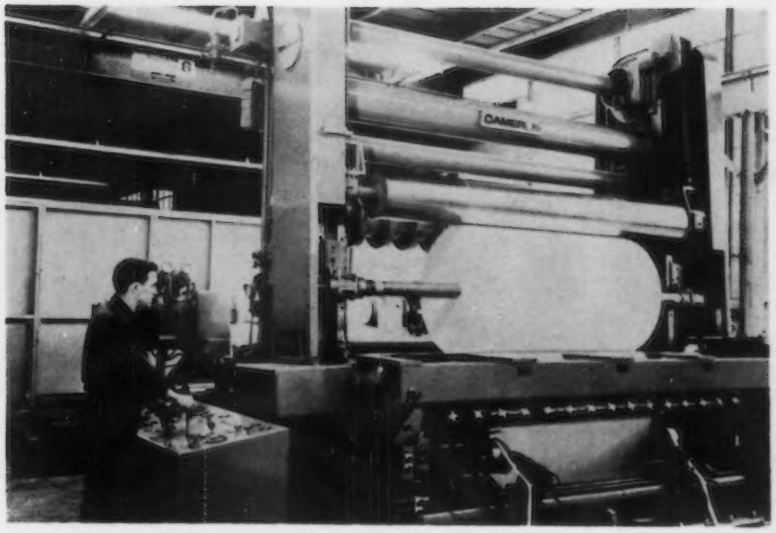
Bigger and better calender rolls made in the largest roll shop in the world.

B. F. PERKINS & SON, INC.

HOLYOKE, MASSACHUSETTS

Southern Sales Offices • Hayes Textiles, Inc., Union Street, Spartanburg, S. C. (P. O. Box 2135)

PTJ NEWS OF SUPPLIERS



Cameron Machine Co., Dover, N. J., has added a 102 inch trim width, high speed paper machine winder to its testing and development section. This new winder, to be used for both experimental and testing purposes, can be equipped with either score-cut or shear-cut slitting elements. It has a 60 inch diameter rewind capacity and can run at speeds up to 6,000 feet per minute.

A shaftless unwind stand equipped with continuous duty brakes is used in back of the winder. The unwind brake system provides a torque range from 56,000 inch pounds down to 100 inch pounds. Automatic web tension control is supplied either by using the Model 950 dancer roll tensioning device or the pneumatic-hydraulic Web-Trol sensing device.

The winder is equipped with a differential drum speed control system, making it possible to control the density of the rewinding rolls. The drum speed control system, an integral part of the main drive isolated gear box, has been developed to provide a means of winding larger diameter rolls of coated papers with less danger of web breaks during subsequent printing processes.

With the addition of the new paper mill winder Cameron's Testing and Development Section is now equipped with five winders. All of the principles of slitting and winding used within the industries served by Cameron can be seen in this one location. The facilities of the testing and development section have been made available to companies interested in test running new materials.

Emile Egger & Co., SA, Cressier/NE (Switzerland), specialist and consulting engineers for the pulp and paper industry, announces that two of the most important Dutch board and paper manufacturers have placed considerable orders for complete stock preparation plants. One plant will produce 70 tons per day of super white patent coated board for folding boxes and the other one 70 tons per day of fine and medium fine papers. The annual output of each plant will be 25,000 tons.

Emile Egger & Co., SA., has been charged with the engineering and planning of these manufacturing facilities and also with the supply of various products of the manufacturing program as pumps, agitators, valves, control and supervision equipment.

Paper Converting Machine Co., Green Bay, Wis., according to L. G. Wood, president, has started construction of a 60 x 140 ft. building addition which is scheduled for occupancy in early fall. Complete planning and supervision of construction is under the direction of John Somerville, architect. In addition to the Research and Development section, the building plans show well detailed space for an increased electrical division.

Jefferson Chemical Co., Inc., announces that Jerald M. Honeycutt has joined the company as a staff engineer. Dr. Honeycutt will be responsible for process analysis and optimization and for application of systems engineering and operations research methods to company operations. In addition, he will investigate electronic computer applications, including automatic process control. His location will be in Houston. Dr. Honeycutt received his un-

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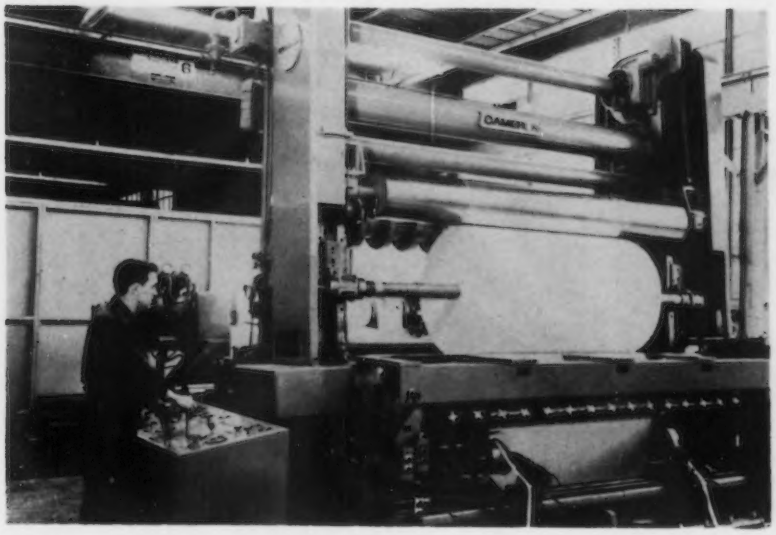

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der graduate degree from Tulane University and did his graduate work at the University of Texas. He had been associated previously with Esso Research and Engineering Co. and Petro-Tex Chemical Corp.

Stowe-Woodward, Inc., Newton Upper Falls, Mass., announces that James P. McNamee has joined its research and development department as roll development manager. He will be responsible for new product development as well as product improvement for this 75-year-old manufacturer of industrial rubber rolls. A veteran of over 23 years' experience in the roll covering field, Mr. McNamee has traveled extensively throughout the United States, Canada and South America in the interests of the rubber industry.

J. P. McNamee

Frank Clawson

G. A. T. Moore

M. J. Peters

A. E. Staley Manufacturing Co. has appointed George A. T. Moore manager of sales to the paper, corrugated, building materials and related industries.

Mr. Moore succeeds Robert L. Schuerman, who has been promoted to full responsibility for services to sales groups provided by various engineering groups, food, candy, and products application technicians.

Albany Felt Co., Albany, N. Y., announces the appointment of Paper Mill Suppliers, Inc., Kalamazoo, Mich., as the exclusive agency for the distribution of Dri-Tuft and Dri-Weave dryer felts manufactured by Albany Felt.

Paper Mill Suppliers, Inc., is headed by Frank Clawson, formerly regional manager for Brandon Sales, Inc. It is expected the product line will be increased to include additional supplies required by the paper industry. The firm's address is Box 831, Kalamazoo, Mich.

John W. Bolton & Sons, Inc., Lawrence, Mass., manufacturer of machine knives for industry, has appointed Marcus Jackson Peters sales representative in the territory which includes Georgia, Alabama and Florida.

A graduate of the University of Georgia, Mr. Peters is highly qualified for his new responsibilities with more than 16 years of experience in sales and distribution. Previous to joining Bolton, he was Southern manager for Yuba Consolidated Industries of San Francisco.

Dewey and Almy Chemical Division, W. R. Grace & Co., has announced two changes in sales territories.

Glenn D. Jackson, III, formerly responsible for Georgia and Florida, now will serve Pennsylvania, Maryland, Delaware and Virginia.

Billy E. McCardle, formerly responsible for Texas, Oklahoma, Louisiana, Arkansas, Mississippi, and

from tree to paper
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For every operation in spraying, from the heavy impact needed in debarking to the exactly controlled volume, distribution and spray angle essential in web spraying . . . Spraying Systems spray nozzles offer many advantages. Choice of capacities and selection of types is far greater in range . . . exclusive design features result in better performance. For complete information write for Catalog 24.
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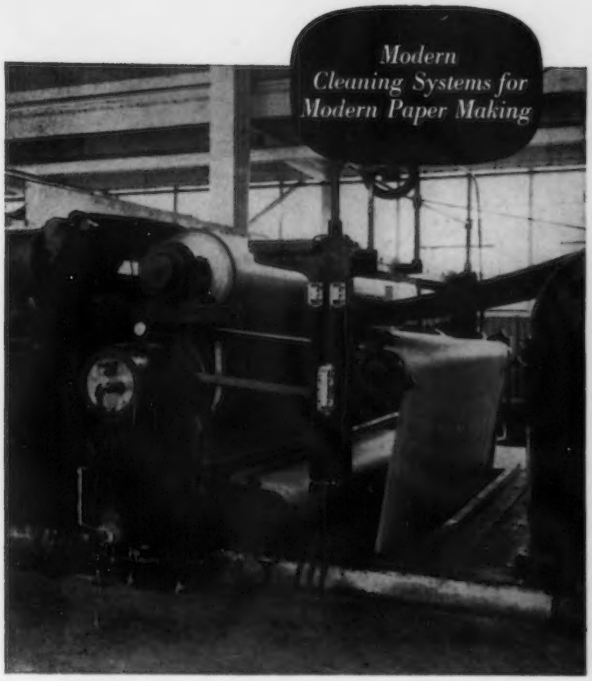

3 easy ways to clean SUCTION PRESS ROLLS

Method 1. Pump solution of Oakite Composition No. 19 to perforated pipe installed inside roll. Catch overflow in trough, return to heated solution tank, recirculate. Rinse. Cleans rolls and suction box simultaneously.

Method 2. Revolve roll at slowest speed through trough containing heated solution of Oakite Composition No. 19, for about four hours. Pressure-rinse.

Method 3. Brush solution of Oakite Compound No. 32 over roll. Keep surface wet until holes are completely opened. Or, use the mechanized methods outlined above with Oakite Compound No. 32. Pressure-rinse. For hard-water areas.

Each of these methods is "best" for many mills. Operating conditions, run of paper, type of pulp and hardness of water determines which is best *for them*. Which is best for *you?* Ask your local Oakite man, or write for Bulletin B-1324. Oakite Products, Inc., 48A Rector Street, New York 6, N. Y.

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G. D. Jackson

W. E. McCardle

P. R. Fritzsching

A. E. Carl

T. J. Salb

W. S. McDermott

Western Tennessee, assumes responsibility for Florida, Georgia, Alabama, and Eastern Tennessee. His former territory has been occupied by William C. Capehart, whose appointment to Dewey and Almy was recently announced.

Penick & Ford, Ltd., has appointed Peter R. Fritzsching paper mill representative, according to W. S. Russell, sales manager—Corn Refining Division. Mr. Fritzsching will call on paper mills and converters in the Middle Atlantic district.

Before joining Penick & Ford in March 1961, Mr. Fritzsching was a technician and research chemist with the Air Reduction Chemical Co., where he also did field work in the pulp and paper industry. He attended Rutgers University and the University of Heidelberg.

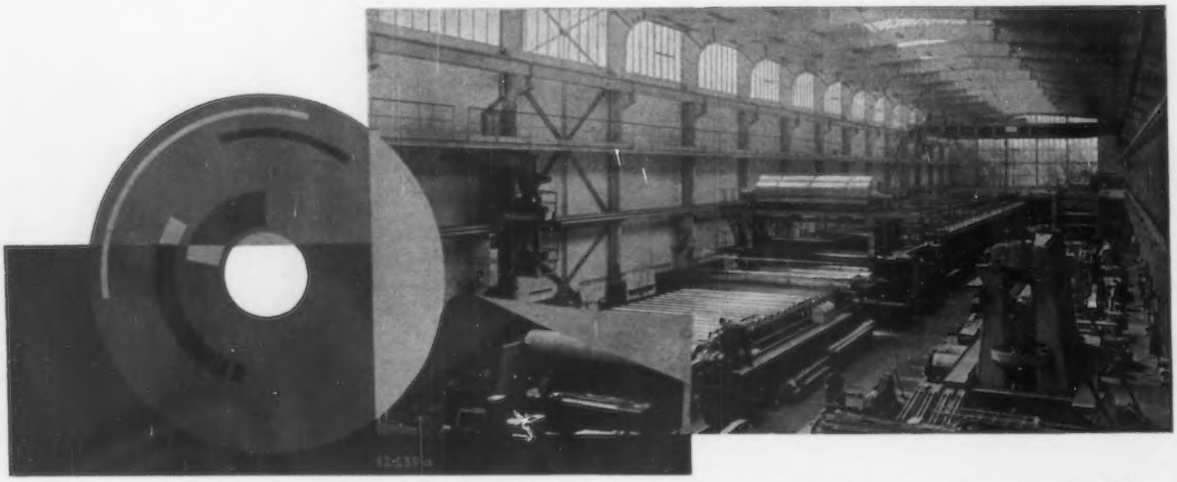
Morden Machines Co., Portland, Ore., manufacturer of stock preparation equipment for the pulp and paper industry, has appointed Allen E. Carl as West Coast sales and service engineer.

Mr. Carl replaces James McAndie who will now supervise sales and service in the Northeast and New England division. Mr. Carl spent four and one-half years as sales engineer with Amedon Forge and Machine Works and six years in the engineering department of Longview Fiber Co. He will service Morden Machines customers in Oregon, Washington, California, British Columbia, Idaho and Arizona.

Bulkley Dunton Pulp Co., Inc. has announced the appointment of W. S. McDermott and T. J. Salb as vice presidents.

Mr. McDermott will direct wood pulp sales in the New England, Middle Atlantic and Southeastern states. Mr. Salb will coordinate wood pulp sales in New York, New England and Canada. In addition, both men will represent three pulp mill suppliers: O. Doerries Paper Machine Co. of Durin, Germany; fourdrinier wires of the United Wire Works, Edinburgh, Scotland; and titanium dioxide for the New Jersey Zinc Co.

A member of the Bulkley Dunton sales staff since 1952, Mr. McDermott was previously engaged in sales and sales training at the Camp Manufacturing Co., Franklin, Va.



Shop erection of a newsprint machine of 5,500 mm. (217 in.) wire width.

SALEABLE PAPER

within a minimum of time, sometimes even within a few hours after commencing operation, cannot be produced without a scrupulous shop erection of the paper machine. A shop erection is indispensable for fitting the many components – there are about 200 000 parts including standardized units for wide Fourdrinier machines – as well as for a speedy and smooth erection on mill site. Prior to delivery every paper machine is nearly completely erected in our shops by experienced personnel. The last fitting jobs are being done and after a thorough check the machine receives the first coat of paint.

J. M. VOITH GMBH · HEIDENHEIM (BRENZ) · GERMANY

Formerly trade relations director of the Jasper Desk Co., Jasper, Ind., Mr. Salb joined Bulkley Dunton in 1949. He is an alumnus of the University of Arizona and Western Michigan University.

Antara Chemicals, a division of General Aniline & Film Corp., New York, N. Y., has named Gene A. Brost product manager—intermediates. Mr. Brost succeeds Frank Card, who has resigned to accept a position with another company.

Mr. Brost has been with Antara Chemicals since May 1956, and for the past two years, held the position of Midwestern regional manager. Before this, he was a sales engineer in the company's sales development department for one year, and supervisor—applications research for two years. From 1951 until 1956 he was with Cowles Chemical Co., Skaneateles Falls, N. Y., in application research.

General Electric has named Raleigh E. Utterback West Coast district manager for closed circuit television equipment sales of its Technical Products Operation in San Francisco. A native of Tacoma, Wash., Mr. Utterback comes to the Coast from Technical Products' headquarters in Syracuse, N. Y.

"What's paint?"

Foxboro Co., Foxboro, Mass., manufacturer of industrial instruments for measurement and control, opened a $700,000 assembly plant in East Bridgewater, Mass., June 5.

The new plant will allow Foxboro to expand the manufacture and assembly of electronic consotrol instruments.

Production of all the solid-state electronic line has already been transferred to the new plant. The ultimate aim is to expand this facility to handle the increasing demand for electronic instrumentation in all phases of industrial processing.

Illinois Gear & Machine Co., Chicago, Ill., announces the election of R. L. Durgin as a new vice-president.

Mr. Durgin joined the company in 1955. He is a graduate of the University of Rochester and has a background of 15 years in the gear manufacturing industry. He is affiliated with numerous engineering and technical societies.

Clinton Corn Processing Co., Clinton, Iowa, has appointed Everett E. Hanke district sales manager for the New England states.

Mr. Hanke has been a member of Clinton's New England sales force since September 1, 1953. He will headquarter at Clinton's New England sales office in Somerville, Mass.

RECORD PAPER & PULP STOCK VALVES "BONNETLESS" SELF CLEARING - - - "RESIDUE POCKETLESS TYPE"

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The photo of 24" Fig. 241 I. B. B. M. valve while illustrating the gate bottom wedge system for forced gate seating and "GUILLOTINE" edge for shearing fibre at seat also shows the packing box and yoke as separate units. Both adjustable.

- The "FAST THREADED" screw stem and ball bearing speeds valve operation.
- The packing box is extra deep, is adjustable and provided with specialized lubricated packings and special type gland and compression bolts.
- The yoke mountings are such that yokes for various methods of gate operation are interchangeable.
- Replaceable gate edge shoes are used in valves 10" and larger. These shoes are of special value when valves are installed stem and pipe horizontal.

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Figures of the Week

PAPER PRODUCTION RATIO REPORT—American Paper & Pulp Assn. Figures

(Production as per cent of normal capacity)

COMPARATIVE WEEKLY SUMMARIES

	May 6	May 13	May 20	May 27	June 3
1961	91.9	91.7	91.9r	91.9r	87.5
	May 7	May 14	May 21	May 28	June 4
1960	97.3	98.5	97.8	97.0	96.1

r Revised.

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1960	96.5	97.7	98.1	96.9	97.6	96.1	81.2	91.7	89.1	94.8	92.0	80.2	92.7
1961	87.9	90.0	91.2	90.7‡	91.0‡								

‡ Preliminary.

COMPARATIVE YEARLY SUMMARIES

	1954	1955	1956	1957	1958	1959	1960	1961
Year to Date	93.6	97.1	101.4	94.9	88.2	92.0	97.3	90.1
Year Average	91.6	96.2	97.9	90.4	87.0	92.2	92.7	

All of the above data is based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available.

PAPERBOARD OPERATING RATIOS†—National Paperboard Assn. Figures

COMPARATIVE WEEKLY SUMMARIES

	May 6	May 13	May 20	May 27	June 3
1961	93	92	93	93	84
	May 7	May 14	May 21	May 28	June 4
1960	93	94	95	93	85

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1960	92	95	94	93	94	92	78	94	88	93	86	73	89
1961	88	89	91	91	91								

† *Per cents of operation based on "inch-hours" reported on a 6-day basis to the National Paperboard Association.*

SUMMARY OF PAPERBOARD STATISTICS—National Paperboard Assn. Figures

ITEM	WEEK ENDING May 27, 1961	WEEK ENDING June 3, 1961	CUMULATIVE TO DATE Jan. 1, 1961 to June 3, 1961
% Activity	93%	84%	90%
Total	331,806	300,899	6,804,946
Containerboard—Domestic Use	170,421	156,754	3,446,345
Liner	117,013	104,963	2,295,884
Corrugating Material	49,080	47,731	1,043,131
Chip & Filler Board	4,328	4,060	107,330
Boxboard—Domestic Use	97,641	89,568	2,126,465
Folding	62,006	52,482	1,259,283
Set-Up	8,183	8,573	205,895
Special Food Board	27,452	28,513	661,287
Other Paperboard	63,744	54,577	1,232,136
Containerboard Type	30,765	24,489	580,270
Boxboard Type	32,979	30,088	651,866
Total Orders			
Received	320,360	317,081	
Unfilled End of Week	432,421	447,581	

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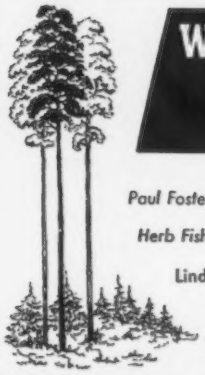

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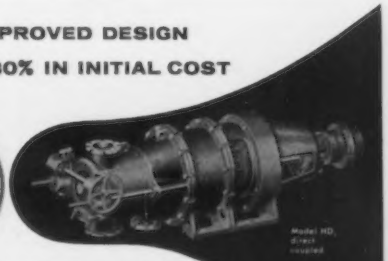

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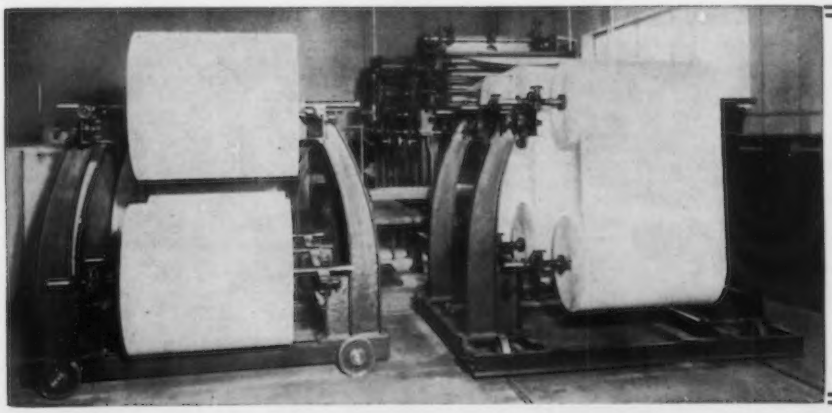

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ENGINEERS TECHNICAL SALES

We are seeking several engineers with pulp and paper industry experience interested in Technical Industrial Sales. Position requires sales contacts and engineering for handling systems and heavy equipment in the U. S. and abroad. Knowledge of dry end operations will be helpful. An engineering degree, or its equivalent in experience, plus an interest and ability to work with customers at upper levels of management are basic requisites. Must be willing to relocate to West Coast. Salary commensurate with experience. Resume should include complete personal and professional qualifications, present salary and photograph. Reply Box 61-113 care Paper Trade Journal.
J-19

DEVELOPMENT CHEMIST/ENGINEER

with papercoating, papermaking background. To join expanding staff specializing in silicones for paper industry. Opportunities good. Salary commensurate with experience. Write or send resume to Bruce W. Ringey, Salaried Employment, Dow Corning Corporation, Midland, Michigan.
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Help Wanted

WANTED

Quality Control Engineer for large Metropolitan Newspaper

Engineering or Science Graduate with 3-5 years paper mill experience

Interesting work—Control, Development and Research—Excellent future—Please send complete resume of experience, education, photo and salary requirements to Room #807, 220 East 42nd Street, New York 17, New York
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GOVERNMENT BIDS

PROPOSALS FOR THE SALE OF UNSORTED WASTE PAPER.

U.S. GOVERNMENT PRINTING OFFICE,
WASHINGTON D.C., *June 7, 1961.*

Sealed proposals will be received at this Office until 10 o'clock a.m., e.d.s.t., June 23, 1961, for the sale of Unsorted Waste Paper which may accumulate at the Government Printing Office during the three months beginning July 1, 1961. The right to reject any and all bids and to waive defects is reserved. Detailed specifications of the estimated quantities to be sold, accompanied by blank proposals and giving regulations with which bidders must comply, may be obtained by addressing

JAMES L. HARRISON,
Public Printer.
J-19

. . . WANTED . . .

PULP MILL MANAGER FOR MEXICO

TO $25,000 START

Plus Bonus, Car With Chauffeur and Other Valuable Extras

Our client here is the ownership interest and original builders of a modern, relatively new market sulphate pulp mill in Northern Mexico presently running 150 T/D of bleached, semi-bleached and unbleached grades.

Now in initial stages is a multi-million dollar expansion program which will increase capacity to 225 T/D and then to 300 T/D.

Whereas before, this mill has been run by technical people, and very able ones, the owners feel that the company's interests can best be served from this point on by bringing in a top flight operating man—a pulp mill manufacturing executive skilled in getting the maximum production from men and machines.

The new mill manager will be charged solely with the efficient operation of the mill itself, including maintenance. He will not be called upon to take charge of the new construction, nor will he need be concerned with the following areas, which are personally handled by the Director General from the company's nearby home offices: Finance, Sales, Collections, Purchasing, Personnel Recruitment, Labor Negotiations, Government Relations and Wood Procurement. Accordingly, he will be free to direct his entire attention to the actual administration of the manufacturing activities.

Mill is located in a company-owned town of 5,000, one hour's drive by high speed paved road from a large, modern, charming and gracious Mexican city, replete with all necessary and desirable facilities, including an American school. Daily scheduled commercial airline service provides quick, economical transportation to U.S. border one hour and a half away.

To answer a few pertinent questions, command of Spanish unnecessary. Mill personnel 90% bilingual. Modern three bedroom home at mill site furnished at very low cost. Car with chauffeur furnished. Not necessary to relinquish American or Canadian citizenship. Income taxes lower than U.S. Two or three year contract can be had if desired. Family can live in nearby large town if desired. Climate about like Southern Texas. No political problems.

Present candidacy by duplicate letter in full confidence to Mr. George M. Sunday personally, enclosing two pictures and two copies of comprehensive resume detailing vital statistics; education; religious, professional and social affiliations; and comprehensive chronological treatment of business background and experience, including present and past income levels.

Telephone conference will follow, at which time cogent details will be discussed, questions answered and arrangements made for subsequent personal meeting with client principals at their expense.

SUNDAY, INC.

Personnel Consultants to Management
Pulp, Paper, Packaging and Allied Industries
J-19

6 East Monroe Street Chicago 3, Ill. ANdover 3-1970

BEATERS

2—1500 lb. rag beaters, Valley Iron, bandless rolls, 54″ x 48″, cast iron tubs

CALENDER STACKS

1—3 roll 84″ face
1—4 roll 72″ face (Extra heavy duty)
1—5 roll 86″ face

CHIPPERS

1—96″ Murray 4 knife Chipper—anti-friction bearings
1—84″ 10 knife Carthage Chipper, Anti-friction bearings, with motor

COATERS

1—27″ High Solid Coater
1—42″ Chapman Extrusion Type Coater

CRUSHER & HAMMERMILL

1—Murray Chip Crusher
1—Williams Hammermill
1—Jeffrey Shredder

CYLINDER MOLDS

5—36″ diameter x 75″ face, with couch rolls
1—36″ diameter x 82″ face
1—42″ diameter x 96″ face
2—42″ diameter x 106″ face
2—60″ diameter x 170″ face

DRIVES

1—Jones 21 H.P., ratio 10 to 1 (enclosed angle drive)
1—#4 Reeves Drive
2—Falk Drives, 20 H.P. & 160 H.P.
4—Falk Chest Agitator Drives, 10 H.P., ratio 140 to 1.

DRYERS

1—16″ diameter x 54″ face (steel)
1—28″ diameter x 84″ face
1—28″ diameter x 48″ face
4—28″ diameter x 40″ face.
2—Calender Dryers, bronze, 30″ x 128″ with frames, gears & necessary rolls to make up the unit.
1—36″ diameter x 44″ face
4—36″ diameter x 76″ face.
23—36″ diameter x 84″ face
14—48″ diameter x 48″ face with bearings
2—48″ diameter x 52″ face with frames, gears, bearings
2—48″ x 60″ face frames, gears & bearings
1—48″ diameter x 108″ face.
6—48″ diameter x 130″ face
1—60″ diameter x 92″ face, anti-friction bearings

EMBOSSING CALENDERS

1—43″ 3-roll Embossing Calender
1—48″ 2-roll Meadows Embossing Calender
1—51½″ 3-roll Smoothing Calender
1—57″ 3-roll Embossing Calender
1—62″ 2-roll Embosser
1—90″ 2-roll Smoothing Calender

FILTERS

1—Oliver, 8 ft. x 12 ft., rubber lined, complete
1—Oliver Filter 8 ft. x 8 ft.
1—Dorr-Oliver Filter, 3 ft. dia. x 6 ft. face, stainless steel construction, with pump

FLAT SCREENS

1—12 Plate "Packer"
4—14 Plate IMPCO, bronze vats

JORDANS

2—#1 Jones High Speed Jordans, Stainless steel tackle, A.-F. Bearings, motors.
1—#1 Jones High Speed Jordan
1—Jones Standard, new spare tackle, with 75 h.p. motor
1—Noble & Wood Monarch, Type D, anti-friction bearings
1—Noble & Wood Mammoth Jr., with spare plug
1—Noble & Wood Baby Jordan, anti-friction bearings, with 20 h.p. motor
1—#6 Miami, anti-friction bearings

KNIFE GRINDER

1—70″ Seybold

LABORATORY EQUIPMENT

1—Washer for 5 lb. Beater
1—24″ Saveall, stainless steel
1—20″ Fourdrinier Wet End & Press Section
1—Noble & Wood Cycle Beater with motor & stand
1—Williams Freeness Tester.
1—Cady Micrometer
7—Mullen Testers, motorized & hand operated
1—2 qt. Auto Clave, Stainless Steel
2—Elmendorf Tear Testers.
1—27″ High Solid Coater
1—Noble & Wood Baby Jordan, anti-friction bearings, with 20 h.p. motor
2—Emerson, Jr., No. 1 Jordans, anti-friction bearings
1—24″ diameter x 24″ face Stainless steel Cooling Drum
1—8″ x 8″ Elmes Hydraulic Press

MISCELLANEOUS

1—Shartle Hydrafuge, 1000 g.p.m. (with motor)

MOTORS

4—25 h.p. Westinghouse, totally enclosed, ball bearing, 705 r.p.m.

PACKAGING MACHINERY

1—Lyneh Morpac Packaging Machine

PRESSAFINER

1—7″ Pressafiner, stainless steel construction, New 1955, with new spare motor

PRESS ROLLS

2—Chilled iron, chrome plated 9″ x 72″
1—Chilled iron, chrome plated 10″ x 74″

PUMPS

1—Economy Fan Pump 6000 g.p.m. 20′ head, 50 h.p. motor

REELS

1—72″ Downingtown Reel, 2 bowl
1—84″ 3 bowl revolving reel
1—86″ 2 bowl reel
1—100″ Rice Barton 2 bowl reel, heavy duty
1—116″ Downingtown, 2 bowl, anti-friction bearings
1—123″ 3 bowl Revolving Reel
1—130″ Pope Reel (Rice Barton)
1—134″ 2 drum

REFINERS

1—Rice Barton Dynofiner, details on request
1—12″ Wiener Refiner, with 200 h.p. motor
2—36″ Bauer double disc #185E Refiners, each with two 100 h.p. motors
1—#4 Dilts Hydrafiner, anti friction bearings

ROLL HEADER

1—Valley Iron Roll Heading Machine, complete, for paper rolls 100″ long x 42″ diameter

ROLLS

Felt, Table, Press, Breast, Couch, etc. Various sizes and types. (Bronze, Rubber, Iron, etc.)

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4—#2A Bird Rotary Screens, copper vats
1—#2A—50 Bird, copper vat
2—APMEW Rotary Pulp Screens

SAVEALLS

1—#6 Bird Saveall.
1—24″ Continuous Saveall, stainless steel
1—LaMort 48″ diameter x 82″ face cylinder mold
2—Savealls, cylinder molds, 42″ diameter x 106″ face, brand new vats
1—Saveall, Rice Barton, cast iron vat, cylinder mold 48″ diameter x 128″ face, complete with 18″ diameter couch roll, all in very good condition

SHEETERS

1—160″ Moore & White, simplex, complete

SHREDDERS

1—16″ "Swift" Paper Shredder
2—Taylor Stiles Rag Cutters

SLITTERS & WINDERS

1—26″ Cameron Type 26-2A, with constant tension & electric eye.
4—42″ Cameron Type 6
1—42″ Cameron Type 9
1—42″ Cameron Type 26-2A
1—42″ Cameron Type 40-2
1—50″ Cameron Type 6
1—52″ Cameron Type 9.
1—86″ Two Drum Moore & White 50″ diameter rewind
1—96″ 4 drum Moore & White winder
1—64″ Waldron, Shear cut

SLITTING DEVICE

84″ Quick change slitting device shear cut, complete

SUCTION COUCH SHELL

1—Downingtown suction couch shell only. 127½″ face 26″ diameter

SUCTION COUCH ROLL

1—Beloit 36″ diameter x 246″ face, SKF bearings

SUCTION FELT ROLL

1—Gilbert & Nash 122″ face

SUCTION PRESS ROLL

1—Sandusky 18″ dia. x 138″ face Suction Press Roll

SUPER CALENDER STACKS

1—7 Roll 70″ face.
1—9 Roll 56″ face

TOILET WINDERS

1—72″ Hudson-Sharp (Surface type winder)

TRIMMERS

1—95″ Seybold Trimmer, Model 15ZJ

VACUUM PUMPS

2—#3 Nash Hytors
1—#4 Nash Hytor
1—#7 Nash Hytor, with 75 h.p. synchronous motor
1—H-7 Nash
2—K-5 Nash
2—L-4 Nash
3—L-5 Nash
1—L-6 Nash

VATS

2—Brand new Downingtown Iron End Vats, for 42″ diameter x 112″ face cylinder molds. Will cut down to your size.

VIBRATING SCREENS

1—Hummer Vibrating Screen, Stainless Steel
1—Selectro, 2 Stage, 5 ft. x 10 ft.

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1—84″ IMPCO Wet Machine

YANKEE DRYERS

1—60″ diameter x 92″ face, anti-friction bearings
1—12 ft. diameter x 181½″ face

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1—32" 4-color Potdevin flexo tailprinter
1—33" 6-color Modern Clipper Flexo Press
1—33" 4-color Wolverine Hydro-Printer
3—35" 2 color Bagprint Flexo T/printers
1—36" 6-color Cottrell Heinrich Flexo Press
1—41⅜" 5-color Staude Roto Gravure Press
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CAMACHINES

1—162" Type 10 Model 19 Shear Cut
1—102" #18
1—82" Type 12
1—72" Type 10 6A Anti Friction Bearings
1—72" 10-10A
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1—52", 10 5-A
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1—50" 28-3D Duplex

OTHER SLITTERS

1—152" D.A. Langston
1—102" Langston, 60" Rewind Capacity
1—82" & 1—92" "8A" Langstons
1—40" & 1—52" Fales Model "B"
1—52" Meisel (Shear Cut)
1—50" & 2—40" Beck Razor Blade slitters
1—40" & 1—60" Kidder SH 40" rewind
1—24" 1—30", 1—36" & 1—40" Kidder S.L. & 1—36" SLN

POWER PAPER CUTTERS

SEYBOLDS:	64" precision	
	56"-Dayton	44"-Dexter
	50"-Precision	44"-C&P
	44"-Mod. "CF"	44"-10Z
75"-Oswego	40"-Mod. "CF"	38"-Oswego
	50"-C&P	32"-Oswego
57"-Oswego	50"-Dexter	32"-3Y

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2—PO2 Roto Bag Machines
2—Bagprint B-10 F&S Bag machine
1—#4 Lockport F&S B/Machine 17½ x 25
1—Hansel Bag Machine—3 color printer
1—Simplex 7-24 Pouch Machine, E/eye
1—Multipath Bag Machine — 4 Color Holweg Printer
1—Strachan & Henshaw Bag Machine—2-color Aniline Printer
1—Model 4 Potdevin Sack Machine

MISCELLANEOUS MACHINES

1—36" Beck CSH L/boy—E/eye
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LOW PRICES

2—86" B. & S. Wet Machines; Bronze and Rubber Press Rolls; A.F. Bearings on Couches and Cylinder Molds. Complete with Gear Drives. Excellent Condition.

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FOR PAPER—USED

Designed to condition paper weighing 23 lbs/1000 sq. ft. from 36" to 45" wide at a speed of 500 feet/min. The paper enters the conditioner at a maximum of 100° F. containing 4 per cent moisture and leaves with 7½%±½%.

This machine must be sold in near future. Further details available on request. Inspection encouraged.

Box 61-122
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J-3

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WANTED

Pay top prices for used German made Krause paper cutter, Envelope mach. Heidelbergpress. Give weights, sizes, copies, HP, original factory prices. Paper Converters, 112 S. Edinburg Los Angeles 48.

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Pulp and Paper graduate with 2½ years mill experience desires opportunity in technical service or production. Age 26. No geographical preference. Address Box 61-123 care Paper Trade Journal J-3

Production executive — conversion of boards, paper & film. Well versed in heading up all production functions in an organization; or reorganization deal. Multiple manufacturing units. Employed — wishes change for challenging opportunity. Box No. 61-9 care Paper Trade Journal.

J-26

CHIEF ENGINEER, graduate mechanical engineer, 19 years experience in operation, maintainence, design and construction. Familiar with all phases of mill operation. Address Box 61-126 care Paper Trade Journal. J-3

MILL MANAGER

graduate engineer presently employed as manager newsprint and pulps, age mid forties, excellent record in all phases of management, desires change in location, resumé furnished on request, apply to Box #61-121 Paper Trade Journal.

J-26

CHIEF PRODUCTION ENGINEER, excellent background in printing, coating and forming paper containers, both round ad square. Presently employed but desire improvement. Address Box care Paper Trade Journal. J-16

PAPER ENGINEER, Ph. D. in paper technology, age 33, desires position in research or in a capacity of rendering technical assistance to manager of manufacturing or converting. 6 years' experience in Canada and Europe. Special interest: coating. Box Nr. 61-125 care of Paper Trade Journal. J-16

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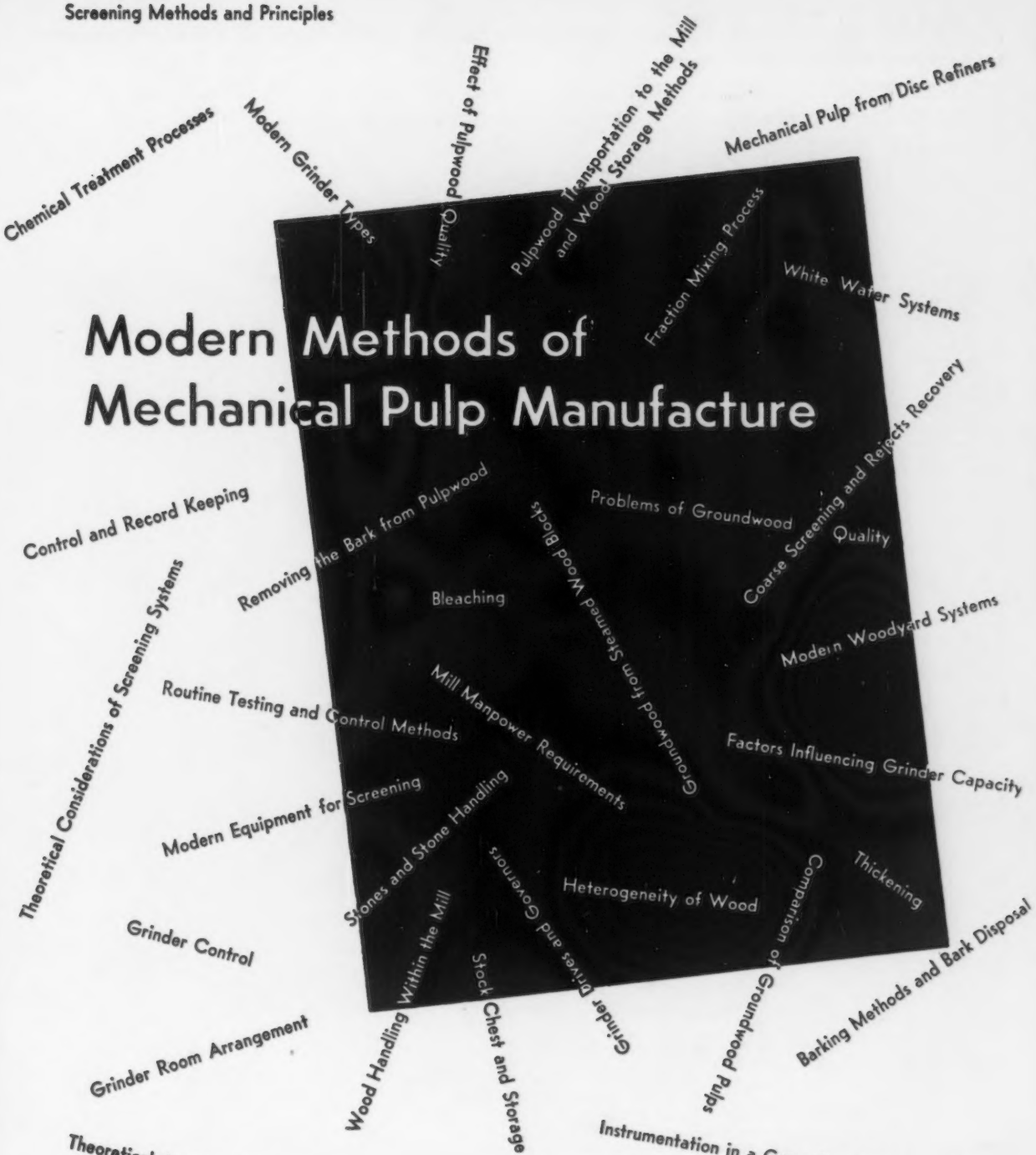
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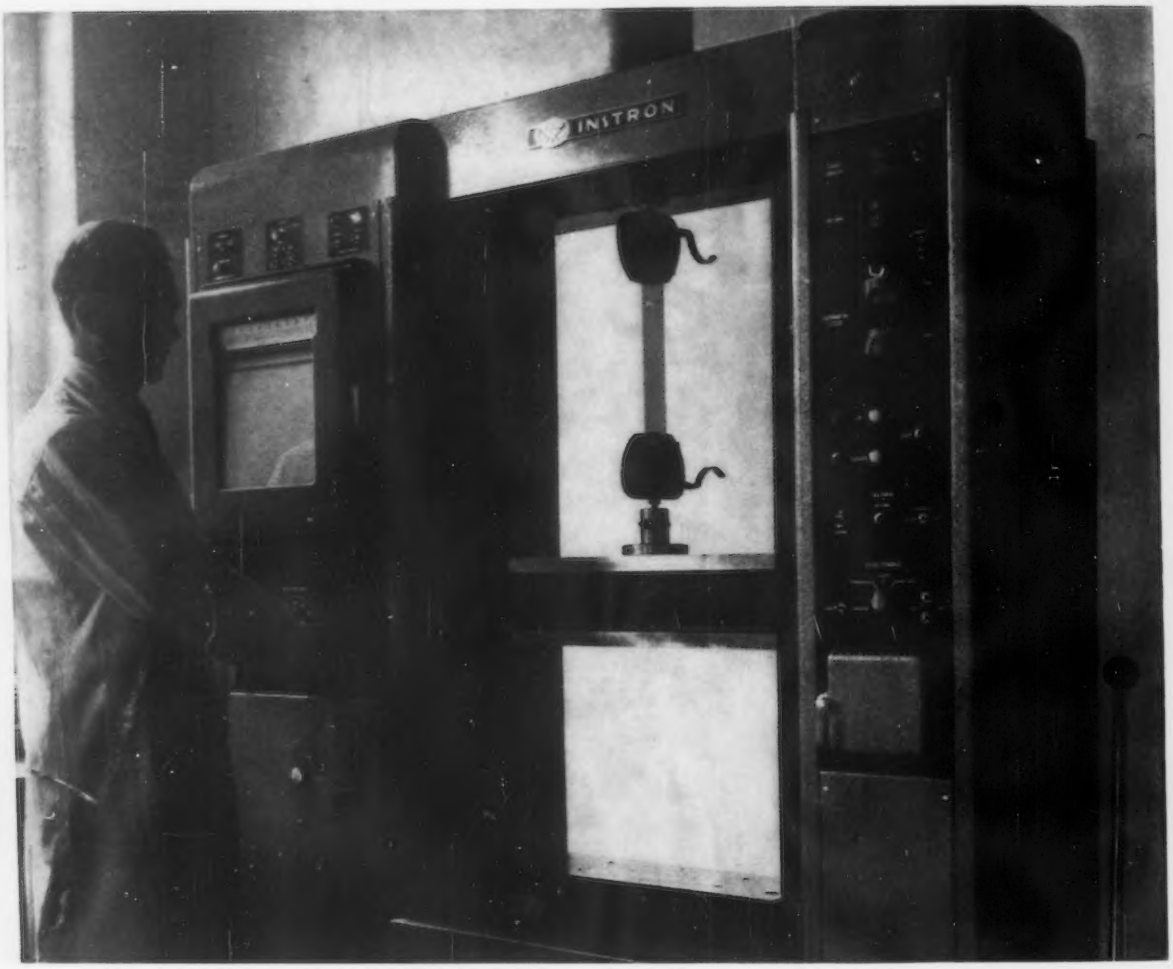

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